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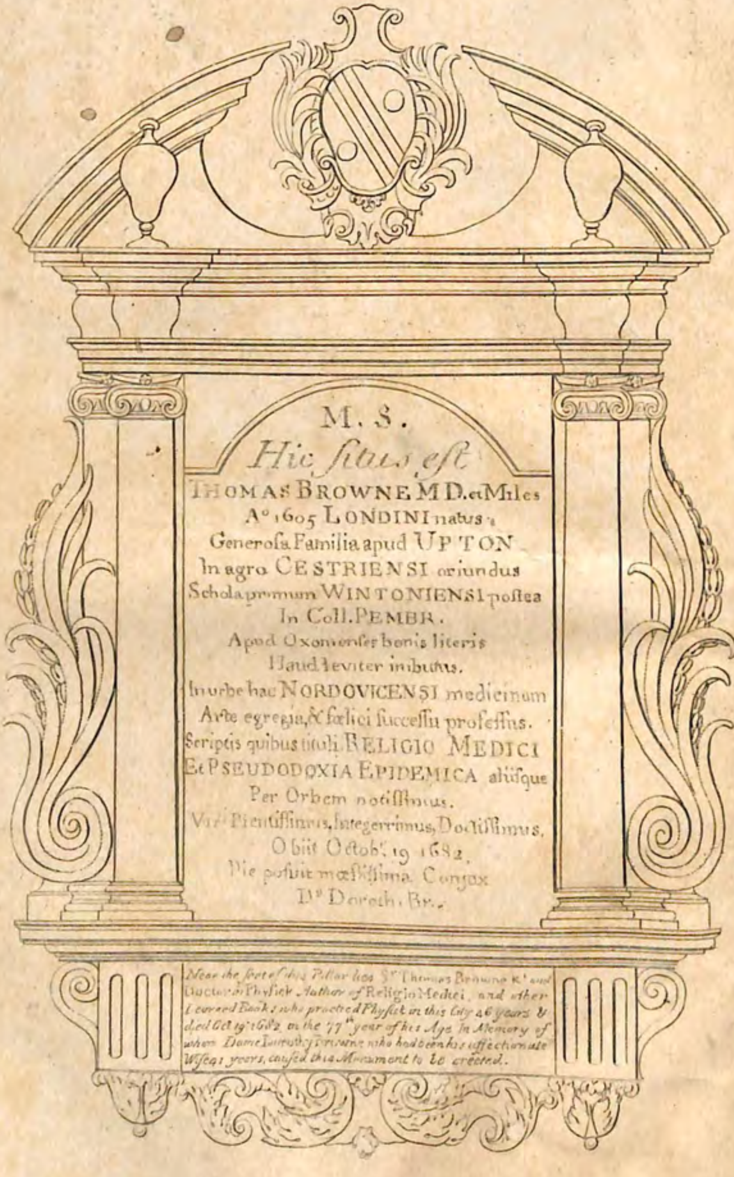

M. S.
Hic ſitus eſt
THOMAS BROWNE M.D. et Miles
A° 1605 LONDINI natus,
Generoſa Familia apud UPTON
In agro CESTRIENSI oriundus
Schola primum WINTONIENSI poſtea
In Coll. PEMBR.
Apud Oxonienſes bonis literis
Haud leviter imbutus.
In urbe hac NORDOVICENSI medicinam
Arte egregia, & fœlici ſucceſſu profeſſus.
Scriptis quibus tituli RELIGIO MEDICI
Et PSEUDODOXIA EPIDEMICA aliiſque
Per Orbem notiſſimus.
Vir Pientiſſimus, Integerrimus, Doctiſſimus,
Obiit Octobr. 19 1682,
Pie poſuit mœſtiſſima Conjux
Da. Doroth. Br.

Near the foot of this Pillar lies Sr Thomas Browne Kt and Doctor in Physick Author of Religio Medici, and other Learned Books, who practised Physick in this City 46 years & died Oct 19th 1682 in the 77th year of his Age In Memory of whom Dame Dorothy Browne who had been his affectionate Wife 41 years, caused this Monument to be erected.

MONUMENT OF
SIR THOMAS BROWNE,
IN ST PETER'S MANCROFT,
Norwich.

THE WORKS

OF

SIR THOMAS BROWNE.

INCLUDING

HIS UNPUBLISHED CORRESPONDENCE,

AND A MEMOIR.

3680

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EDITED BY SIMON WILKIN, F.L.S.

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CONTENTS TO VOLUME THIRD.

PAGE

PSEUDODOXIA EPIDEMICA, books 4 to 7... 1 to 374

THE FOURTH BOOK; the particular part continued. Of many popular and received tenets concerning man.

Chap. 1. That only man hath an erect figure . 1 to 4
Chap. 2. That the heart is on the left side . 5 to 7
Chap. 3. That pleurisies are only on the left side . . . . 7 to 8
Chap. 4. Of the ring finger . . . . . 8 to 13
Chap. 5. Of the right and left hand . . . 13 to 23
Chap. 6. On swimming and floating . . . 24 to 27
Chap. 7. That men weigh heavier dead than alive, and before meat than after . . . 28 to 31
Chap. 8. That there are several passages for meat and drink . . . . 31 to 32
Chap. 9. On saluting upon sneezing . . . 33 to 36
Chap. 10. That Jews stink . . . . . . 36 to 43
Chap. 11. Of pygmies . . . . 43 to 47
Chap. 12. Of the great climacterical year, that is, sixty-three . . . . 47 to 68
Chap. 13. Of the canicular or dog-days . . 69 to 85

THE FIFTH BOOK; the particular part continued. Of many things questionable as they are commonly described in pictures; of many popular customs, &c.

Chap. 1. Of the picture of the pelican . . 87 to 90
Chap. 2. Of the picture of dolphins . . . 90 to 92
Chap. 3. Of the picture of a grasshopper . 92 to 95
Chap. 4. Of the picture of the serpent tempting Eve . . . . 95 to 99

PAGE
Chap. 5. Of the picture of Adam and Eve with navels . . . . 99 to 102
Chap. 6. Of the pictures of the Jews and Eastern Nations, at their feasts, especially our Saviour at the Passover . . . . 102 to 110
Chap. 7. Of the picture of our Saviour with long hair . . . . 111 to 112
Chap. 8. Of the picture of Abraham sacrificing Isaac . . . . 113 to 114
Chap. 9. Of the picture of Moses with horns 114 to 116
Chap. 10. Of the scutcheons of the twelve tribes of Israel . . . . 117 to 122
Chap. 11. Of the pictures of the sybils . 122 to 123
Chap. 12. Of the picture describing the death of Cleopatra . . . . 124 to 126
Chap. 13. Of the pictures of the nine worthies 127 to 131
Chap. 14. Of the picture of Jephthah sacrificing his daughter . . . . 131 to 134
Chap. 15. Of the picture of John the Baptist in a camel's skin . . . . 134 to 136
Chap. 16. Of the picture of St. Christopher 136 to 138
Chap. 17. Of the picture of St. George . 138 to 140
Chap. 18. Of the picture of St. Jerome . 141 to 143
Chap. 19. Of the pictures of mermaids, unicorns, and some others . . . . . 143 to 148
Chap. 20. Of the hieroglyphical pictures of the Egyptians . . . . 148 to 152
Chap. 21. Of the picture of Haman hanged 153 to 155
Chap. 22. Of the picture of God the Father; of the sun, moon, and winds, with others 156 to 161
Chap. 23. Compendiously of many popular customs, opinions, &c. . . . . 162 to 173
Chap. 24. Of popular customs, opinions, &c. 174 to 184

THE SIXTH BOOK; the particular part continued. Of popular and received tenets, cosmographical, geographical, and historical.

Chap. 1. Concerning the beginning of the world, that the time thereof is not precisely known, as commonly it is presumed . . 185 to 200

PAGE
Chap. 2. Of men's enquiries in what season or point of the Zodiack it began, that, as they are generally made, they are in vain, and as particularly, uncertain . . . . 201 to 203
Chap. 3. Of the divisions of the seasons and four quarters of the year, &c. . . . . 204 to 209
Chap. 4. Of some computation of days and deductions of one part of the year unto another 210 to 213
Chap. 5. A digression of the wisdom of God in the site and motion of the sun . . 213 to 219
Chap. 6. Concerning the vulgar opinion that the earth was slenderly peopled before the flood . . . . 219 to 235
Chap. 7. Of east and west . . . . 236 to 246
Chap. 8. Of the river Nilus . . . . 246 to 259
Chap. 9. Of the red sea . . . . . . 259 to 262
Chap. 10. Of the blackness of Negroes . 263 to 275
Chap. 11. Of the same . . . . . . 275 to 280
Chap. 12. A digression concerning blackness 281 to 287
Chap. 13. Of gypsies . . . . 287 to 290
Chap. 14. Of some others . . . . . 290 to 293

THE SEVENTH BOOK; the particular part concluded. Of popular and received tenets, chiefly historical, and some deduced from the Holy Scriptures.

Chap. 1. That the forbidden fruit was an apple 295 to 299
Chap. 2. That a man hath one rib less than a woman . . . . 299 to 301
Chap. 3. Of Methuselah . . . . . . 301 to 304
Chap. 4. That there was no rainbow before the flood . . . . 304 to 308
Chap. 5. Of Shem, Ham, and Japheth . 308 to 310
Chap. 6. That the tower of Babel was erected against a second deluge . . . . . 310 to 312
Chap. 7. Of the mandrakes of Leah . . 312 to 317
Chap. 8. Of the three kings of Collein . 317 to 319
Chap. 9. Of the food of John Baptist, locust and wild honey . . . . 319 to 321
Chap. 10. That John the Evangelist should not die . . . . 321 to 326

PAGE

Chap. 11. Of some others more briefly . . 326 to 329
Chap. 12. Of the cessation of oracles . . 329 to 332
Chap. 13. Of the death of Aristotle . . 332 to 338
Chap. 14. Of the wish of Philoxenus to have the neck of a crane . . . . 338 to 341
Chap. 15. Of the lake Asphaltites . . 341 to 345
Chap. 16. Of divers other relations: viz. of the woman that conceived in a bath; of Crassus that never laughed but once, &c. 345 to 353
Chap. 17. Of some others: viz. of the poverty of Belisarius; of fluctus decumanus, or the tenth wave; of Parisatis that poisoned Satira by one side of a knife; of the woman fed with poison that should have poisoned Alexander; of the wandering Jew; of Friar Bacon's brazen head that spoke; of Epicurus 353 to 362
Chap. 18. More briefly of some others: viz. that the army of Xerxes drank whole rivers dry; that Hannibal cut through the Alps with vinegar; of Archimedes his burning the ships of Marcellus; of the Fabii that were all slain; of the death of Æschylus; of the cities of Tarsus and Anthiale built in one day; of the great ship Syracusia or Alexandria; of the Spartan boys . . . . . 362 to 369
Chap. 19. Of some relations whose truth we fear . . . . 370 to 374

THE GARDEN OF CYRUS . . . . . 375 to 448
Editor's preface to the Garden of Cyrus, Hydriotaphia, and Brampton Urns . . . 377 to 380

HYDRIOTAPHIA . . . . 449 to 496

BRAMPTON URNS . . . . 497 to 505

THE FOURTH BOOK.

THE PARTICULAR PART CONTINUED.

OF MANY POPULAR AND RECEIVED TENETS CONCERNING MAN.

CHAPTER I.

That only Man hath an erect figure.

THAT only man hath an erect figure, and for to behold and look up toward heaven, according to that of the poet:[1]

> Pronaque cum spectant animalia cætera terram,
> Os homini sublime dedit, cœlumque tueri
> Jussit, et erectos ad sydera tollere vultus.

is a double assertion, whose first part may be true if we take erectness strictly, and so as Galen hath defined it, for they only, saith he, have an erect figure, whose spine and thigh bone are carried in right lines, and so indeed, of any we yet know, man only is erect.[2] For the thighs of other animals do stand at angles with their spine, and have rectangular positions in birds, and perfect quadrupeds. Nor doth the frog, though stretched out, or swimming, attain the rectitude of man, or carry its thigh without all angularity. And thus is it also true, that man only sitteth, if we define sitting to be a firmation of the body upon the *ischias*; wherein, if the position be just and natural, the thigh-bone lieth at right angles to the spine, and the leg-bone or *tibia* to the thigh. For others, when they seem to sit, as dogs, cats, or lions, do make unto their spine acute angles with their thigh, and acute to the thigh with their shank. Thus is it likewise true, what Aristotle allegeth in that problem, why man alone suffereth pollutions in the night, because man only lieth upon his back,—if we define not the same by every supine position, but when the spine is in rectitude with the thigh, and both with the arms lie parallel to the horizon, so that a line through their navel will pass through the zenith and centre of the earth. And so cannot other animals lie upon their backs, for though the spine lie parallel with the horizon, yet will their legs incline, and lie at angles unto it. And upon these three divers positions in man, wherein the spine can only be at right lines with the thigh, arise those remarkable postures, prone, supine, and erect, which are but differenced in situation, or angular postures upon the back, the belly, and the feet.

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[1] *The poet.*] Ovid. Met. i, 84. See also Cicero, De Nat. Deor. ii, 56.

[2] *Man only is erect.*] But itt is most evident that baboones and apes doe not only .... as a man, but goe as erect also.—*Wr.*

This is incorrect. Man alone, unquestionably, is constructed for an erect position. The apes, which resemble him in their conformation more closely than any other animals, are incapable of attaining a perfectly erect attitude, and though they occasionally assume a position nearly so, yet even this they cannot long retain. Their narrowness of pelvis, the configuration of their thighs and lower extremities, the situation of their flex or muscles, and the want of muscular calves and buttocks, constitute together an incapacity for perfect or continued verticity of attitude in the *quadrimuna.*

But if erectness be popularly taken, and as it is largely opposed unto proneness, or the posture of animals looking downwards, carrying their venters or opposite part of the spine directly towards the earth, it may admit of question. For though in serpents and lizards we may truly allow a proneness, yet Galen acknowledgeth that perfect quadrupeds, as horses, oxen, and camels, are but partly prone, and have some part of erectness; and birds, or flying animals, are so far from this kind of proneness, that they are almost erect; advancing the head and breast in their progression, and only prone in the act of volitation or flying; and if that be true which is delivered of the penguin or *anser Magellanicus*, often described in maps about those straits, that they go erect like men, and with their breast and belly do make one line perpendicular unto the axis of the earth, it will almost make up the exact erectness of man.* Nor will that insect come very short, which we have often beheld, that is, one kind of locust which stands not prone, or a little inclining upward, but in a large erectness, elevating always the two fore legs, and sustaining itself in the middle of the other four; by zoographers called *mantis*, and by the common people of Provence, Praga Dio, the prophet and praying locust, as being generally found in the posture of supplication, or such as resembleth ours, when we lift up our hands to heaven.

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* Observe also the *Urias Bellonii* and *Mergus major*.

As for the end of this erection, to look up toward heaven, though confirmed by several testimonies, and the Greek etymology of man, it is not so readily to be admitted; and, as a popular and vain conceit, was anciently rejected by Galen, who in his third *De usu partium*, determines that man is erect, because he was made with hands, and was therewith to exercise all arts, which in any other figure he could not have performed, as he excellently declareth in that place, where he also proves that man could have been made neither quadruped nor centaur.[3]

And for the accomplishment of that intention, that is, to look up and behold the heavens, man hath a notable disadvantage in the eye-lid, whereof the upper is far greater than the lower, which abridgeth the sight upwards contrary to those of birds, who herein have the advantage of man; insomuch that the learned Plempius [*] is bold to affirm, that if he had had the formation of the eye-lids, he would have contrived them quite otherwise.[4]

The ground and occasion of that conceit was a literal apprehension of a figurative expression in Plato, as Galen thus delivers: to opinion that man is erect to look up and behold heaven, is a conceit only fit for those that never saw the fish *uranoscopus*,[5] that is, the beholder of heaven, which hath its eyes so placed, that it looks up directly to heaven, which man doth not, except he recline, or bend his head backward; and thus to look up to heaven agreeth not only unto man but asses; to omit birds with long necks, which look not only upward, but round about at pleasure; and therefore men of this opinion understood not Plato when he saith, that man doth *sursum aspicere;* for thereby was not meant to gape, or look upward with the eye, but to have his thoughts sublime, and not only to behold, but speculate their nature with the eye of the understanding.[6]

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[*] *Ophthalmographia.*

[3] *man could have been, &c.*] Why not as well as an ape, if that reason be good; for an ape uses his hand as well as man, and yett hee is *quadrupes* too. *Wr.*—Incorrect again. Apes cannot use their hands *as well as man*, because destitute of the facility which man possesses for the free use of his hands and arms, in the erect position, and because of the superior mechanical adaptation of the human hand to the exercise of the arts and occupations of life. The opinion quoted by our author that man could not become quadruped, is incontrovertible.

[4] *And for the accomplishment, &c.*] This paragraph first added in 2nd edit.

[5] *To opinion, &c.*] This is a poore cavil, for the end of mans lookinge upward is

Now although Galen in this place makes instance but in one, yet are there other fishes whose eyes regard the heavens, as plane and cartilaginous fishes, as pectinals, or such as have their bones made literally like a comb, for when they apply themselves to sleep or rest upon the white side, their eyes on the other side look upward toward heaven. For birds, they generally carry their heads erected like a man, and have advantage in their upper eye-lid, and many that have long necks, and bear their heads somewhat backward, behold far more of the heavens, and seem to look above the equinoctial circle; and so also in many quadrupeds, although their progression be partly prone, yet is the sight of their eye direct, not respecting the earth but heaven, and makes an higher arch of latitude than our own. The position of a frog with his head above water exceedeth these; for therein he seems to behold a large part of the heavens, and the acies of his eye to ascend as high as the tropic; but he that hath beheld the posture of a bittern, will not deny that it beholds almost the very zenith.[7]

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not the same with *uranoscopus*, to which the same is equivocal, bycause this posture, being always at the botom, hee lookes alwayes upwards, not to heaven, but as watching for his foode flooting over his head; the question then is, not whether any other creatures have the head erect as man, but whether to the same ende.—*Wr.*

[6] *Understood not Plato, &c.*] This is too pedanticall and captious: for Plato sayd plainlye, *Astronomie causa datos esse homini oculos*, but not to other creatures, though they have their heads more erect then hee, and far better sight.—*Wr.*

[7] *The posture of a bittern, &c.*] Which proceeds from his timorous and jealous nature, holding his head at hight, for discovery, not enduring any man to come neere: his neck is stretch out, but his bill stands like the cranes, hernshawes, &c.—*Wr.*

CHAPTER II.

That the Heart is on the left side.

THAT the heart of man is seated in the left side is an asseveration, which, strictly taken, is refutable by inspection, whereby it appears the base and centre thereof is in the midst of the chest; true it is, that the mucro or point thereof inclineth unto the left, for by this position it giveth way unto the ascension of the midriff, and by reason of the hollow vein could not commodiously deflect unto the right. From which diversion, nevertheless, we cannot so properly say 'tis placed in the left, as that it consisteth in the middle, that is, where its centre riseth; for so do we usually say a gnomon[8] or needle is in the middle of a dial, although the extremes may respect the north or south, and approach the circumference thereof.

The ground of this mistake is a general observation from the pulse or motion of the heart, which is more sensible on this side; but the reason hereof is not to be drawn from the situation of the heart, but the site of the left ventricle wherein the vital spirits are laboured, and also the great artery that conveyeth them out, both which are situated on the left. Upon this reason epithems or cordial applications are justly applied unto the left breast, and the wounds under the fifth rib may be more suddenly destructive, if made on the sinister side, and the spear of the soldier that pierced our Saviour, is not improperly described, when painters direct it a little towards the left.

The other ground is more particular and upon inspection; for in dead bodies, especially lying upon the spine, the heart doth seem to incline upon the left; which happeneth not from its proper site, but besides its sinistrous gravity, is drawn that way by the great artery, which then subsideth and haleth the heart unto it; and thereof strictly taken, the heart is seated in the middle of the chest, but after a careless and inconsiderate inspection, or according to the readiest sense of pulsation, we shall not quarrel if any affirm it is seated toward the left. And in these considerations must Aristotle be salved, when he affirmeth the heart of man is placed in the left side, and thus in a popular acception may we receive the periphrasis of Persius, when he taketh the part under the left pap for the heart,* and if rightly apprehended, it concerneth not this controversy, when it is said in Ecclesiastes, the heart of a wise man is in the right side, but that of a fool in the left; for thereby may be implied, that the heart of a wise man delighteth in the right way, or in the path of virtue; that of a fool in the left, or road of vice, according to the mystery of the letter of Pythagoras, or that expression in Jonah, concerning sixscore thousand, that could not discern between their right hand and their left, or knew not good from evil.[9]

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[8] *Gnomon.*] There is not the same reason of a *gnomon* and a needle. This is ever in the midst, but a gnomon stands on the substilar line, which declines east or west, as the place does, wherein 'tis drawne.—*Wr.*

That assertion also that man proportionally hath the largest brain,[1] I did I confess somewhat doubt, and conceived it might have failed in birds, especially such as having little bodies, have yet large cranies, and seem to contain much brain, as snipes, woodcocks, &c. But upon trial I find it very true. The brains of a man, Archangelus and Bauhinus observe to weigh four pounds, and sometimes five and a half. If therefore a man weigh one hundred and forty pounds, and his brain but five, his weight is twenty seven times as much as his brain, deducting the weight of that five pounds which is allowed for it. Now in a snipe, which weighed four ounces two drachms, I find the brains to weigh but half a drachm, so that the weight of the body, allowing for the brain, exceeded the weight of the brain sixty-seven times and a half.

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* *Levæ in parte mamillæ.*

[9] *For thereby, &c.*] This concluding part of the sentence was first added in 2nd edition.

[1] *Man hath, &c.*] This is most especially true when spoken of "*the hemispheres of the brain,*" that is, of that part of this organ which serves as the principal instrument of the intellectual operations.—See *Cuvier*, by *Griffiths*, i, 86.

More controvertible it seemeth in the brains of sparrows, whose cranies are rounder, and so of larger capacity; and most of all in the heads of birds, upon the first formation in the egg, wherein the head seems larger than all the body, and the very eyes almost as big as either. A sparrow in the total we found to weigh seven drachms and four and twenty grains, whereof the head a drachm, but the brain not fifteen grains, which answereth not fully the proportion of the brain of man; and therefore it is to be taken of the whole head with the brains, when Scaliger* objected that the head of a man is the fifteenth part of his body, that of a sparrow scarce the fifth.[2]

CHAPTER III.

That Pleurisies are only on the left side.

THAT pleurisies are only on the left side, is a popular tenet not only absurd but dangerous: from the misapprehension hereof men omitting the opportunity of remedies, which otherwise they would not neglect. Chiefly occasioned by the ignorance of anatomy, and the extent of the part affected, which in an exquisite pleurisy is determined to be the skin or membrane which investeth the ribs for so it is defined, *inflammatio membranæ costas succingentis;* an inflammation, either simple, consisting only of an hot and sanguineous affluxion, or else denominable from other humours, according to the predominancy of melancholy, phlegm, or choler. The membrane thus inflamed, is properly called *pleura,* from whence the disease hath its name; and this investeth not only one side, but over-spreadeth the cavity of the chest, and affordeth a common coat unto the parts contained therein.

Now therefore the *pleura* being common unto both sides, it is not reasonable to confine the inflammation unto one, nor strictly to determine it is always in the side; but sometimes before and behind, that is, inclining to the spine or breast bone, for thither this coat extendeth, and therefore with equal propriety we may affirm that ulcers of the lungs, or apostems of the brain, do happen only in the left side, or that ruptures are confinable unto one side; whereas the peritonæum or rim of the belly may be broke, or its perforations relaxed in either.

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* *Histor. Animal.* lib. i.

[2] *More controvertible, &c.*] This paragraph first added in 2nd edition.

CHAPTER IV.

Of the Ring-finger.

An opinion there is, which magnifies the fourth finger of the left hand; presuming therein a cordial relation, that a particular vessel, nerve, vein, or artery, is conferred thereto from the heart, and therefore that especially hath the honour to bear our rings. Which was not only the Christian practice in nuptial contracts, but observed by heathens, as Alexander ab Alexandro, Gellius, Macrobius and Pierius have delivered, as Levinus Lemnius hath confirmed, who affirms this peculiar vessel to be an artery, and not a nerve, as antiquity hath conceived it; adding moreover that rings hereon peculiarly affect the heart; that in lipothymies or swoonings he used the frication of this finger with saffron and gold; that the ancient physicians mixed up their medicines herewith; that this is seldom or last of all affected with the gout, and when that becometh nodous, men continue not long after. Notwithstanding all which, we remain unsatisfied, nor can we think the reasons alleged sufficiently establish the preeminency of this finger.

For first, concerning the practice of antiquity, the custom was not general to wear their rings either on this hand or finger; for it is said, and that emphatically in Jeremiah, *si fuerit Jeconias filius Joachim regis Judæ annulus in manu dextrâ meâ, inde evellam eum:* "though Coniah the son of Joachim king of Judah, were the signet on my right hand, yet would I pluck thee thence." So is it observed by Pliny, that in the portraits of their gods, the rings were worn on the finger next the thumb;[3] that the Romans wore them also upon their little finger, as Nero is described in Petronius: some wore them on the middle finger, as the ancient Gauls and Britons; and some upon the forefinger, as is deducible from Julius Pollux, who names that ring, *corianos*.

Again, that the practice of the ancients had any such respect of cordiality or reference unto the heart, will much be doubted, if we consider their rings were made of iron;[4] such was that of Prometheus, who is conceived the first that brought them in use. So, as Pliny affirmeth, for many years the senators of Rome did not wear any rings of gold,[5] but the slaves wore generally iron rings until their manumission or preferment to some dignity. That the Lacedemonians continued their iron rings unto his days, Pliny also delivereth, and surely they used few of gold; for beside that Lycurgus prohibited that metal, we read in Athenæus, that, having a desire to gild the face of Apollo, they enquired of the oracle where they might purchase so much gold; and were directed unto Crœsus King of Lydia.

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[3] *finger next the thumb;*] Rings were formerly worn upon the thumb; as appears from the portraits of some of our English monarchs. Nieuhoff mentions that the old viceroy of Canton wore an ivory ring on his thumb, "as an emblem signifying the undaunted courage of the Tartar people."—*Embassy to China*, p. 45.

[4] *will much be doubted, &c.*] Yet Pliny says, *etiam nunc sponsæ annulus ferreus mittitur, isque sine gemmâ.—Nat. Hist.* l. xxxiii, cap. 1.

At Silchester, in Hampshire, (the *Vindonum* of the Romans,) was found an iron ring, with a singular shaped key attached to it;—now in the possession of Mrs. Keep, at the farm-house, where I saw it, June 26, 1811.—*Jeff.*

[5] *the senators, &c.*] Juvenal, comparing the extravagance of his own times with those of the old Romans, has *annulus in digito non ferreus.—Sat.* xi, 129.—Kennet observes that the Roman knights were allowed a gold ring, and a horse at the public charge, hence *eques auratus. Roman Antiquities.* Tacitus says, *De Mor. German.* s. 31.—Fortissimus quisque (Cattorum) ferreum insuper annulum (ignominiosum id genti) velut vinculum gestat, donec se cæde hostis absolvet." Among the Eastern nations also was the ring worn as a badge of slavery.—See *Lowth*, note on Isa. xlix, 23.—*Jeff.*

We may add that rings were frequently used by medical practitioners, as charms and talismans, against all sorts of calamities inflicted by all kinds of beings:—Hippocrates and Galen both enjoin on physicians the use of rings. See a curious paper on this subject in the *Archæologiæ*, vol. xxi, p. 119.

Patriotism has, in our own days, induced the exchange of gold for iron rings. The women of Prussia, in 1813, offered up their wedding-rings upon the altars of their country, and the government, in exchange, distributed iron rings with this inscription, "I exchange gold for iron."

Rings however have not only been deemed badges of slavery, but very anciently and far more generally they denoted authority and government. Pharaoh in committing that of Egypt to Joseph gave him his ring—so Ahasuerus to Mordecai. With great probability has it been conjectured, that, in conformity with the Scriptural examples of this ancient usage, the Christian church afterwards adopted the ring in marriage, as a symbol of the authority which the husband gave the wife over his household, and over the "worldly goods" with which he endowed her; accompanying it, in many of the early Catholic rituals, with the betrothing or earnest penny, which was deposited either in the bride's right hand, or in a purse brought by her for the purpose.

Moreover, whether the ancients had any such intention, the grounds which they conceived in vein, nerve or artery, are not to be justified, nor will inspection confirm a peculiar vessel in this finger. For as anatomy informeth, the *basilica* vein dividing into two branches below the cubit, the outward sendeth two surcles unto the thumb, two unto the fore-finger, and one unto the middle finger in the inward side; the other branch of the basilica sendeth one surcle unto the outside of the middle finger, two unto the ring, and as many unto the little fingers; so that they all proceed from the basilica, and are in equal numbers derived unto every one. In the same manner are the branches of the axillary artery distributed into the hand; for below the cubit it divideth into two parts, the one running along the radius, and, passing by the wrist or pulse, is at the fingers subdivided into three branches; whereof the first conveyeth two surcles unto the thumb, the second as many to the forefinger, and the third one unto the middle finger, and the other or lower division of the artery descendeth by the *ulna*, and furnisheth the other fingers; that is the middle with one surcle, and the ring and little fingers with two. As for the nerves, they are disposed much after the same manner, and have their original from the brain, and not the heart, as many of the ancients conceived,[6] which is so far from affording nerves unto other parts, that it receiveth very few itself from the sixth conjugation, or pair of nerves in the brain.

Lastly, these propagations being communicated unto both hands, we have no greater reason to wear our rings on the left, than on the right; nor are there cordial considerations in the one, more than the other. And therefore when Forestus for the stanching of blood makes use of medical applications unto the fourth finger, he confines not that practice unto the left, but varieth the side according to the nostril bleeding. So in fevers, where the heart primarily suffereth, we apply medicines unto the wrists of either arms; so we touch the pulse of both, and judge of the affections of the heart by the one as well as the other. And although in dispositions of liver or spleen, considerations are made in phlebotomy respectively to their situation; yet when the heart is affected, men have thought it as effectual to bleed on the right as the left; and although also it may be thought a nearer respect is to be had of the left, because the great artery proceeds from the left ventricle, and so is nearer that arm, it admits not that consideration. For under the channel-bones the artery divideth into two great branches, from which trunk or point of division, the distance unto either hand is equal, and the consideration also answerable.

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[6] *as many of the ancients conceived;*] With whom Ross, as usual, is disposed to agree.—See *Arcana Microcosmi*, p. 35.

All which with many respective niceties, in order unto parts, sides, and veins, are now become of less consideration, by the new and noble doctrine of the circulation of the blood.[7]

And therefore Macrobius, discussing the point, hath alleged another reason; affirming that the gestation of rings upon this hand and finger, might rather be used for their conveniency and preservation, than any cordial relation. For at first (saith he) it was both free and usual to wear rings on either hand; but after that luxury increased, when precious gems and rich insculptures were added, the custom of wearing them on the right hand was translated unto the left; for, that hand being less employed, thereby they were best preserved. And for the same reason, they placed them on this finger: for the thumb was too active a finger, and is commonly employed with either of the rest; the index or forefinger was too naked whereto to commit their precosities, and hath the tuition of the thumb scarce unto the second joint: the middle and little finger they rejected as extremes, and too big or too little for their rings, and of all choose out the fourth, as being least used of any, as being guarded on either side, and having in most this peculiar condition, that it cannot be extended alone and by itself, but will be accompanied by some finger on either side.[8] And to this opinion assenteth Alexander ab Alexandro, *annulum nuptialem prior ætas in sinistrâ ferebat, crediderim nè attereretur.*

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[7] *All which, &c.*] First added in 6th edition.

Now that which begat or promoted the common opinion, was the common conceit that the heart was seated on the left side; but how far this is verified, we have before declared. The Egyptian practice hath much advanced the same, who unto this finger derived a nerve from the heart; and therefore the priest anointed the same with precious oils before the altar. But how weak anatomists they were, which were so good embalmers, we have already shewed. And though this reason took most place, yet had they another which more commended that practice: and that was the number whereof this finger was an hieroglyphick. For by holding down the fourth finger of the left hand, while the rest were extended, they signified the perfect and magnified number of six. For as Pierius hath graphically declared, antiquity expressed numbers by the fingers of either hand: on the left they accounted their digits and articulate numbers unto an hundred; on the right hand hundreds and thousands; the depressing this finger, which in the left hand implied but six, in the right indigitated six hundred. In this way of numeration, may we construe that of Juvenal concerning Nestor.

——— Qui per tot sæcula mortem
Distulit, atque suos jam dextrâ computat annos.

And however it were intended, in this sense it will be very elegant what is delivered of wisdom, Prov. iii. "Length of days in her right hand, and in her left hand riches and honour."

As for the observation of Lemnius, an eminent physician, concerning the gout, however it happened in his country, we may observe it otherwise in ours; that is, chiragrical persons do suffer in this finger as well as in the rest, and sometimes first of all, and sometimes no where else. And for the mixing up medicines herewith, it is rather an argument of opinion than any considerable effect; and we as highly conceive of the practice in *diapalma;* that is, in the making of that plaster to stir it with the stick of a palm.

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[8] *and having, &c.*] This is not true. —*Wr.*

But indeed, Mr. Dean, it *is* true. The *annularis* is the *only* finger in the human hand, not possessed of the power of separate movement.

CHAPTER V.

Of the Right and Left Hand.

It is also suspicious, and not with that certainty to be received, what is generally believed concerning the right and left hand; that men naturally make use of the right,[9] and that the use of the other is a digression or aberration from that way which nature generally intendeth. We do not deny that almost all nations have used this hand, and ascribed a preeminence thereto: hereof a remarkable passage there is in Genesis: "And Joseph took them both, Ephraim in his right hand towards Israel's left hand, and Manasses in his left hand towards Israel's right hand. And Israel stretched out his right hand and laid it upon Ephraim's head, who was the younger, and his left hand upon Manasses' head, guiding his hand wittingly, for Manasses was the first-born. And when Joseph saw that his father laid his right hand upon the head of Ephraim, it displeased him, and he held up his father's hand to remove it from Ephraim's head unto Manasses' head; and Joseph said, not so my father, for this is the first-born: put thy right hand upon his head." The like appeareth from the ordinance of Moses in the consecration of their priests; "Then shalt thou kill the ram, and take of his blood, and put it upon the tip of the right ear of Aaron, and upon the tip of the right ear of his sons, and upon the thumb of the right hand, and upon the great toe of the right foot, and sprinkle the blood on the altar round about." That the Persians were wont herewith to plight their faith, is testified by Diodorus; that the Greeks and Romans made use hereof, beside the testimony of divers authors, is evident from their custom of discumbency at their meals, which was upon their left side, for so their right was free, and ready for all service. As also from the conjunction of the right hands and not the left, observable in the Roman medals of concord. Nor was this only in use with divers nations of men, but was the custom of whole nations of women; as is deducible from the Amazons in the amputation of their right breast, whereby they had the freer use of their bow. All which do seem to declare a natural preferment[1] of the one unto motion before the other; wherein notwithstanding, in submission to future information, we are unsatisfied unto great dubitation.

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[9] *men naturally, &c.*] Cann this be denyed? or yf there be some exceptions, i.e. aberrations from the generall rule, doe they not the more confirme itt? *Omnis exceptio stabilit regulam in non exceptis*, is an axiome invincible.—*Wr.*

For first, if there were a determinate prepotency in the right, and such as ariseth from a constant root in nature, we might expect the same in other animals, whose parts are also differenced by dextrality: wherein notwithstanding we cannot discover a distinct and complying account; for we find not that horses, bulls, or mules, are generally stronger on this side. As for animals whose fore-legs more sensibly supply the use of arms, they hold, if not an equality in both, a prevalency ofttimes in the other, as squirrels, apes, and monkeys; the same is also discernable in parrots, who feed themselves more commonly by the left leg; and men observe that the eye of a tumbler is biggest, not constantly in one, but in the bearing side.

There is also in men a natural prepotency in the right, we cannot with constancy affirm,[2] if we make observation in children; who, permitted the freedom of both, do ofttimes confine unto the left,[3] and are not without great difficulty restrained from it. And therefore this prevalency is either uncertainly placed in the laterality, or custom determines its indifferency. Which is the resolution of Aristotle, in that problem which enquires why the right side, being better than the left, is equal in the senses; because, saith he, the right and left do differ by use and custom, which have no place in the senses. For right and left, as parts inservient unto the motive faculty, are differenced by degrees from use and assuefaction, according whereto the one grows stronger and ofttimes bigger than the other. But in the senses it is otherwise; for they acquire not their perfection by use or custom, but at the first we equally hear, and see with one eye, as well as with another. And therefore, were this indifferency permitted, or did not constitution, but nature, determine dextrality, there would be many more Scevolas than are delivered in story; nor needed we to draw examples of the left from the sons of the right hand, as we read of seven thousand in the army of the Benjamites.* True it is, that although there be an indifferency in either, or a prevalency indifferent in one, yet is it most reasonable for uniformity and sundry respective uses, that men should apply themselves to the constant use of one;[4] for there will otherwise arise anomalous disturbances in manual actions, not only in civil and artificial, but also in military affairs, and the several actions of war.

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[1] *natural preferment.*] Ed. 1646 has "naturall preheminency and preferment." —On which Dean Wren says, "Granting this natural preeminencye, confirmed by Scripture soe evidentlye, all the rest is but velitation: for that which God and nature call right, must in reason bee soe cald; and whatsoever varys from thence is an aberration from them bothe."

[2] *That there is, &c.*] Alex. Ross asserts roundly, that Scripture, general consent, experience, and reason, unite in ascribing superior dignity, agility, and strength, to the right side; "because," (says he,) "on the right side is the liver, the *cistern of blood*," &c. &c."—*Arcana*, p. 153.

[3] *do ofttimes, &c.*] This vitiosity proceeds from the maner of gestation: servants and nurses usually carry them on their left arme, soe that the child cannot use its right, and being accustomed to

Secondly, the grounds and reason alleged for the right are not satisfactory, and afford no rest in their decision. Scaliger, finding a defect in the reason of Aristotle, introduceth one of no less deficiency himself; *ratio materialis,* (saith he) *sanguinis crassitudo simul et multitudo,* that is, the reason of the vigour of this side is the crassitude and plenty of blood;

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* *Benjamin Filius Dextræ.*

the left, becomes left-handed. But among the Irishe, who cary their children astride their neckes, you shall rarely see one left-handed of either sex.—*Wr.*

[4] *the constant, &c.*] Wise men count them unlucky that use the left hand, as going contrary to the generall course of nature in all places of the world and all times since the creation. And although the heathen drew a superstitious conceyte from don* first on the left side rather then the right, yet that sprang from an apprehension of disorder in soe doing, and consequentlye (as they thought) unlucky, as in that of Augustus, *Lævum sibi prodidit cultrum præpostere indutum quo die militari tumultu afflictus.*—*Wr.*

* Some omission or error here.

but this is not sufficient; for the crassitude or thickness of blood affordeth no reason why one arm should be enabled before the other, and the plenty thereof, why both not enabled equally. Fallopius is of another conceit, deducing the reason from the *azygos*, or *vena sine pari*, a large and considerable vein arising out of the *cava* or hollow vein, before it enters the right ventricle of the heart, and placed only in the right side. But neither is this persuasory; for the *azygos* communicates no branches unto the arms or legs on either side, but disperseth into the ribs on both, and in its descent doth furnish the left emulgent with one vein, and the first vein of the loins on the right side with another; which manner of derivation doth not confer a peculiar addition unto either. Cælius Rhodiginus, undertaking to give a reason of ambidexters and left-handed men, delivereth a third opinion: men, saith he, are ambidexters, and use both hands alike, when the heat of the heart doth plentifully disperse into the left side, and that of the liver into the right, and the spleen be also much dilated; but men are left-handed whenever it happeneth that the heart and liver are seated on the left side, or when the liver is on the right side, yet so obducted and covered with thick skins that it cannot diffuse its virtue into the right. Which reasons are no way satisfactory, for herein the spleen is unjustly introduced to invigorate the sinister side, which being dilated it would rather infirm and debilitate. As for any tunicles or skins which should hinder the liver from enabling the dextral parts, we must not conceive it diffuseth its virtue by mere irradiation, but by its veins and proper vessels, which common skins and teguments cannot impede. And for the seat of the heart and liver in one side, whereby men become left-handed, it happeneth too rarely to countenance an effect so common; for the seat of the liver on the left side is monstrous, and rarely to be met with in the observations of physicians. Others, not considering ambidexters and left-handed men, do totally submit unto the efficacy of the liver; which, though seated on the right side, yet by the subclavian division doth equidistantly communicate its activity unto either arm; nor will it salve the doubts of observation; for many are right-handed whose livers are weakly constituted, and many use the left in whom that part is strongest; and we observe in apes and other animals, whose liver is in the right, no regular prevalence therein.

And therefore the brain, especially the spinal marrow, which is but the brain prolonged, hath a fairer plea hereto; for these are the principles of motion, wherein dextrality consists, and are divided within and without the crany. By which division transmitting nerves respectively unto either side, according to the indifferency or original and native prepotency, there ariseth an equality in both, or prevalency in either side. And so may it be made out, what many may wonder at, why some most actively use the contrary arm and leg; for the vigour of the one dependeth upon the upper part of the spine, but the other upon the lower.

And therefore many things are philosophically delivered concerning right and left, which admit of some suspension. That a woman upon a masculine conception advanceth her right leg,[5] will not be found to answer strict observation. That males are conceived in the right side of the womb, females in the left, though generally delivered, and supported by ancient testimony, will make no infallible account; it happening ofttimes that males and females do lie upon both sides, and hermaphrodites, for aught we know, on either. It is also suspicious what is delivered concerning the right and left testicle, that males are begotten from the one, and females from the other.[6] For though the left seminal vein proceedeth from the emulgent, and is therefore conceived to carry down a serous and feminine matter; yet the seminal arteries which send forth the active materials, are both derived from the great artery. Beside, this original of the left vein was thus contrived to avoid the pulsation of the great artery, over which it must have passed to attain unto the testicle. Nor can we easily infer such different effects from the diverse situation of parts which have one end and office; for in the kidneys, which have one office, the right is seated lower than the left, whereby it lieth free, and giveth way unto the liver. And therefore also that way which is delivered for masculine generation, to make a strait ligature about the left testicle, thereby to intercept the evacuation of that part, deserveth consideration. For one sufficeth unto generation, as hath been observed in semicastration, and ofttimes in carnous ruptures. Beside, the seminal ejaculation proceeds not immediately from the testicle, but from the spermatick glandules; and therefore Aristotle affirms (and reason cannot deny) that although there be nothing diffused from the testicles, an horse or bull may generate after castration; that is, from the stock and remainder of seminal matter, already prepared and stored up in the prostates or glandules of generation.

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[5] *That a woman, &c.*] This instance is most true, as I have often tryed upon wager, whereas they sodenlye rise from their seate, yf both feete be freee.—*Wr.*

[6] *That males, &c.*] All this while hee does not disprove this: and the reason is as good as 't is manifest.—*Wr.*

Thirdly, although we should concede a right and left in nature, yet in this common and received account we may err from the proper acception: mistaking one side for another;[7] calling that in man and other animals the right which is the left, and that the left which is the right, and that in some things right and left, which is not properly either.

For first, the right and left are not defined by philosophers according to common acception, that is, respectively from one man unto another, or any constant site in each: as though that should be the right in one, which upon confront or facing, stands athwart or diagonally unto the other, but were distinguished according to the activity and predominant locomotion upon either side. Thus Aristotle, in his excellent tract, *De Incessu Animalium,* ascribeth six positions unto animals, answering the three dimensions, which he determineth not by site or position unto the heavens, but by the faculties and functions; and these are *imum summum, ante retro, dextra et sinistra;* that is the superior part, where the aliment is received, that the lower extreme, where it is last expelled; so he termeth a man a plant inverted; for he supposeth the root of a tree the head or upper part thereof, whereby it receiveth its aliment, although therewith it respects the centre of the earth, but with the other the zenith; and this position is answerable unto longitude. Those parts are anterior and measure profundity, where the senses, especially the eyes, are placed, and those posterior which are opposite hereunto. The dextrous and sinistrous parts of the body make up the latitude, and are not certain and inalterable like the other; for that saith he, is the right side, from whence the motion of the body beginneth, that is, the active or moving side; but that the sinister which is the weaker or more quiescent part. Of the same determination were the Platonicks and Pythagoreans before him; who, conceiving the heavens an animated body, named the east the right or dextrous part, from whence began their motion; and thus the Greeks, from whence the Latins have borrowed their appellations, have named this hand δέξια, denominating *it* not from the site, but office, from δέχομαι, *capio*, that is, the hand which receiveth, or is usually employed in that action.

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[7] *mistaking one side, &c.*] Wee take that to be right and lefte which God and nature call soe: and all other reasons are frivolous. Vide Luke i, 11; Gal. ii, 9. Let itt be noted that God cals the left hand the side hand, i. e. *beside* the right hand, to which he gives in that very place, the name of *δέξια* ut Ps. xc, v, 7, *ἐκ τοῦ κλίτους σου χιλιὰς, και μυριὰς ἐκ δεξιῶν σου. κλίτος* autem, ut norunt eruditi, proprie significat declinationem a recto, et hic, a rectâ.—*Wr.*

Now upon these grounds we are most commonly mistaken, defining that by situation which they determined by motion; and giving the term of right hand to that which doth not properly admit it. For first, many in their infancy are sinistrously disposed, and divers continue all their life 'Αριστεροὶ, that is, left-handed, and have but weak and imperfect use of the right; now unto these, that hand is properly the right, and not the other esteemed so by situation.[8] Thus may Aristotle be made out, when he affirmeth the right claw of crabs and lobsters is biggest, if we take the right for the most vigorous side, and not regard the relative situation: for the one is generally bigger than the other, yet not always upon the same side. So may it be verified, what is delivered by Scaliger in his *Comment*, that palsies do oftenest happen upon the left side, if understood in this sense; the most vigorous part protecting itself, and protruding the matter upon the weaker and less resistive side. And thus the law of commonwealths, that cut off the right hand of malefactors, if philosophically executed, is impartial; otherwise the amputation not equally punisheth all.

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[8] *that hand is properly, &c.*] This exception is soe far from destroying the generall rule, that itt rather confirms itt. For the most parte of all men in all nations of the world are right-handed, and in those that use the lefte hand, the righte hand keepes the name; how should hee else bee distinguished from all men that are right-handed. And thoughe the left hand bee as useful to some as the right to all others, yet itt is still their left hand; and by that name they are distinguisht, and cald left-handed men.—*Wr.*

Some are 'Αμφιδέξιοι, that is, ambidextrous or right-handed on both sides; which happeneth only unto strong and athletical bodies, whose heat and spirits are able to afford an ability unto both. And therefore Hippocrates saith, that women are not ambidextrous, that is, not so often as men; for some are found which indifferently make use of both. And so may Aristotle say, that only men are ambidextrous; of this constitution was Asteropæus in *Homer*, and Parthenopeus, the Theban captain, in *Statius:* and of the same do some conceive our father Adam to have been, as being perfectly framed, and in a constitution admitting least defect. Now in these men the right hand is on both sides, and that is not the left which is opposite unto the right, according to common acception.

Again,[9] some are 'Αμφαριστεροὶ, as Galen hath expressed it; that is, ambilevous or left-handed on both sides; such as with agility and vigour have not the use of either; who are not gymnastically composed, nor actively use those parts. Now in these there is no right hand: of this constitution are many women, and some men, who, though they accustom themselves unto either hand, do dextrously make use of neither. And therefore, although the political advice of Aristotle be very good, that men should accustom themselves to the command of either hand; yet cannot the execution or performance thereof be general: for though there be many found that can use both, yet will there divers remain that can strenuously make use of neither.

Lastly, these lateralities in man are not only fallible, if relatively determined unto each other, but made in reference unto the heavens and quarters of the globe: for those parts are not capable of these conditions in themselves, nor with any certainty respectively derived from us, nor from them to us again. And first, in regard of their proper nature, the heavens admit not these sinister and dexter respects, there being in them no diversity or difference, but a simplicity of parts and equiformity in motion continually succeeding each other; so that from what point soever we compute, the account will be common unto the whole circularity. And therefore though it be plausible, it is not of consequence hereto what is delivered by Solinus; that man was therefore a microcosm or little world, because the dimensions of his positions were answerable unto the greater. For as in the heavens the distance of the north and southern pole, which are esteemed the superior and inferior points, is equal unto the space between the east and west, accounted the dextrous and sinistrous parts thereof, so is it also in man; for the extent of his fathom or distance betwixt the extremity of the fingers of either hand upon expansion, is equal unto the space between the sole of the foot and the crown. But this doth but petitionarily infer a dextrality in the heavens, and we may as reasonably conclude a right and left laterality in the ark or naval edifice of Noah. For the length thereof was thirty cubits, the breadth fifty, and the height or profundity thirty: which well agreeth unto the proportion of man; whose length, that is, a perpendicular from the vertex unto the sole of the foot, is sextuple unto his breadth, or a right line drawn from the ribs of one side to another, and decuple unto his profundity, that is, a direct line between the breastbone and the spine.

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[9] *Again, &c.*] In the use of string instruments both hands are dextrously used, yet the easiest and slowest parte is alwayes put on the lefte side; bycause all men use it soe: and excepting the harpe, there is scarce any string instrument to fit both hands, or the virginals, harpsicords, organs, which have all their ground from the harpe, layd along as it were in those instruments and supplied with keys (as that by the fingers) by which they are mediately made to speake as the harpe by the fingers immediately. —*Wr.*

Again, they receive not these conditions with any assurance or stability from ourselves. For the relative foundations, and points of denomination, are not fixed and certain, but variously designed according to imagination. The philosopher accounts that east from whence the heavens begin their motion. The astronomer, regarding the south and meridian sun, calls that the dextrous part of heaven which respecteth his right hand; and that is the west. Poets, respecting the west, assign the name of right unto the north which regardeth their right hand; and so must that of Ovid be explained, *utque, duæ dextrâ zonæ, totidémque, sinistrâ.* But augurs, or soothsayers, turning their face to the east, did make the right in the south;[1] which was also observed by the Hebrews and Chaldeans.[*] Now if we name the quarters of heaven respectively unto our sides, it will be no certain or invariable denomination. For, if we call that the right side of heaven which is seated easterly unto us when we regard the meridian sun, the inhabitants beyond the equator and southern tropick, when they face us, regarding the meridian, will contrarily define it; for unto them, the opposite part of heaven will respect the left, and the sun arise to their right.

And thus have we at large declared, that although the right be most commonly used, yet hath it no regular or certain root in nature. Since it is not confirmable from other animals: since in children it seems either indifferent or more favourable in the other; but more reasonable for uniformity in action, that men accustom unto one: since the grounds and reasons urged for it do not sufficiently support it: since, if there be a right and stronger side in nature, yet may we mistake in its denomination; calling that the right which is the left, and the left which is the right. Since some have one right, some both, some neither. And lastly, since these affections in man are not only fallible in relation unto one another, but made also in reference unto the heavens, they being not capable of these conditions in themselves, nor with any certainty from us, nor we from them again.

[*] Psalm lxxxix, 13.

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[1] *But augurs, &c.*] But Pomponius Lætus (in *De Auguribus*) sayes, if the *augur versus orientem sedebat, tenens dextrâ lituum*, i. e. *curvum baculum, quo in cœlo regiones dividit et quæ auguria conveniunt prædicit: si læva fuerint, fælicia pronunciat:* not bycause what comes to our left hand comes from the right hand of the gods, as some would say, but, sayes he, *quia a læva parte septentrio est; pars n. illa orbis, quia altior est prospera putatur; et a dextrâ parte meridies, quia depressior infelix.* And this reason is not particular, but generall, and such as prevailes all the other of philosophers, astronomers, or poets which respect their owne artes more then the nobler scite of the world. Whose longitude, that is the greatest distance, is accounted from east to west, which are every where round the world. But the latitude, which is the least distance, is counted from the æquator to each pole. And bycause the northerne in all respects of habitation, religion, learning, artes, government, wealth, honor, and all relations to heaven is infinitely more noble, and withall the higher parte of the world: therefore 't is justly cald the *right side* of the world.—*Wr.*

And therefore what admission we owe unto many conceptions concerning right and left, requireth circumspection. That is, how far we ought to rely upon the remedy in Kiranides, that is, the left eye of an hedgehog fried in oil to procure sleep, and the right foot of a frog in a deer's skin for the gout; or, that to dream of the loss of right or left tooth presageth the death of male or female kindred, according to the doctrine of Artemidorus. What verity there is in that numeral conceit in the lateral division of man by even and odd, ascribing the odd unto the right side, and even unto the left; and so, by parity or imparity of letters in men's names to determine misfortunes on either side of their bodies; by which account in Greek numeration, Hephæstus or Vulcan was lame in the right foot, and Annibal lost his right eye. And lastly, what substance there is in that auspicial principle, and fundamental doctrine of ariolation, that the left hand is ominous, and that good things do pass sinistrously upon us, because the left hand of man respected the right hand of the gods, which handed their favours unto us.[2]

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[2] *unto us.*] This chapter is very characteristic of our author. It displays remarkably the great pains he frequently bestows on the elucidation of lesser points, and the quaint and varied illustration which his extensive and curious reading enabled him to supply. The closing paragraph may serve to exemplify this latter remark; while the former is justified, not only by individual passages in the chapter, but by its great length, and by the care and argumentative precision with which he successively examines the various opinions, more or less absurd, which have been expressed on this *most momentous* topic,—summing up at the close, by a detail of the several reasons for his conclusion thereon.

Brande's Journal notices, (vol. ii, page 423,) a discourse by Signor Zecchinelli, on the reason of the prevalent custom of using the right in preference to the left hand. His theory is, first, that it was obviously necessary,—in order to avoid (what our author more felicitously terms) "anomalous discordances in manual actions,"—that one hand should obtain a general preference to the other. The next question was,—which to prefer? The Signor decides that mankind must have discovered that the left hand, from its anatomical connection with the most vital and important parts of the animal economy, could not be the one preferred. "For it must have been observed, that when the left arm is long used, or violently exercised, the left side also of the chest is put more or less in motion, and a consequent and corresponding obstacle produced not only to the free emission of the blood from the heart, but also to its progress through the *aorta* and its ramifications." The editor goes on to observe, that the prevalence of the arterial system in the left side of the body renders this opinion quite plausible: and the painful sensations we experience, when we agitate greatly the left arm, or attempt to run while carrying a weight in the left hand, proves in a certain manner the truth of Signor Z's. assertion.

Dr. A. Clarke, on Gen. xlviii, 18, remarks, that "the right hand of God," in the heavens, expresses the place of the most exalted dignity. But among the Turks, and in the north of China, the left hand is most honourable.

CHAPTER VI.

On Swimming and Floating.

THAT men swim naturally, if not disturbed by fear; that men being drowned and sunk do float the ninth day, when their gall breaketh; that women drowned swim prone, but men supine, or upon their backs, are popular affirmations whereto we cannot assent. And first that man should swim naturally, because we observe it is no lesson unto other animals, we are not forward to conclude; for other animals swim in the same manner as they go, and need no other way of motion for natation in the water, than for progression upon the land. And this is true, whether they move *per latera,* that is, two legs of one side together, which is tolutation or ambling, or *per diametrum,* lifting one foot before, and the cross foot behind, which is succussation or trotting; or whether *per frontem,* or *quadratum,* as Scaliger terms it, upon a square base, the legs of both sides moving together, as frogs and salient animals, which is properly called leaping. For by these motions they are able to support and impel themselves in the water, without alteration in the stroke of their legs, or position of their bodies.

But with man it is performed otherwise: for in regard of site he alters his natural posture and swimmeth prone, whereas he walketh erect.[3] Again, in progression, the arms move parallel to the legs, and the arms and legs unto each other; but in natation they intersect and make all sorts of angles. And lastly, in progressive motion, the arms and legs do move successively, but in natation both together; all which aptly to perform, and so as to support and advance the body, is a point of art, and such as some in their young and docile years could never attain. But although swimming be acquired by art, yet is there somewhat more of nature in it than we observe in other habits, nor will it strictly fall under that definition; for once obtained, it is not to be removed; nor is there any who from disuse did ever yet forget it.

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[3] *he alters, &c.*] "This is no reason," says Ross; "for man alters his natural posture when he crawls; will it follow, therefore, that this motion is not natural to man?"—See *Arcana,* p. 155.

Secondly, that persons drowned arise and float the ninth day, when their gall breaketh, is a questionable determination both in the time and cause. For the time of floating, it is uncertain, according to the time of putrefaction, which shall retard or accelerate according to the subject and season of the year; for as we observed, cats and mice will arise unequally, and at different times, though drowned at the same. Such as are fat do commonly float soonest, for their bodies soonest ferment, and that substance approacheth nearest unto air: and this is one of Aristotle's reasons why dead eels will not float, because saith he, they have but slender bellies and little fat.

As for the cause, it is not so reasonably imputed unto the breaking of the gall as the putrefaction or corruptive fermentation of the body, whereby the unnatural heat prevailing, the putrefying parts do suffer a turgescence and inflation, and becoming aery and spumous affect to approach the air, and ascend unto the surface of the water; and this is also evidenced in eggs, whereof the sound ones sink, and such as are addled swim, as do also those which are termed *hypenemia* or wind eggs, and this is also a way to separate seeds, whereof such as are corrupted and sterile swim, and this agreeth not only unto the seeds of plants locked up and capsulated in their husks, but also unto the sperm and seminal humour of man, for such a passage hath Aristotle upon the inquisition and test of its fertility.

That the breaking of the gall is not the cause hereof, experience hath informed us. For opening the abdomen, and taking out the gall in cats and mice, they did notwithstanding arise. And because we had read in Rhodiginus of a tyrant, who to prevent the emergency of murdered bodies, did use to cut off their lungs, and found men's minds possessed with this reason, we committed some unto the water without lungs, which notwithstanding floated with the others; and to complete the experiment, although we took out the guts and bladder, and also perforated the cranium, yet would they arise, though in a longer time. From these observations in other animals, it may not be unreasonable to conclude the same in man, who is too noble a subject on whom to make them expressly, and the casual opportunity too rare almost to make any. Now if any shall ground this effect from gall or choler, because it is the highest humour and will be above the rest, or being the fiery humour will readiest surmount the water, we must confess in the common putrescence it may promote elevation, which the breaking of the bladder of gall, so small a part in man, cannot considerably advantage.

Lastly, that women drowned float prone, that is, with their bellies downward, but men supine or upward, is an assertion wherein the ὅτι or point itself is dubious, and, were it true, the reason alleged for it is of no validity. The reason yet current was first expressed by Pliny, *veluti pudori defunctorum parcente natura,* nature modestly ordaining this position to conceal the shame of the dead, which hath been taken up by Solinus, Rhodiginus, and many more. This indeed (as Scaliger termeth it) is *ratio civilis non philosophica,* strong enough for morality or rhetoricks, not for philosophy or physicks. For first, in nature the concealment of secret parts is the same in both sexes, and the shame of their reveal equal; so Adam upon the taste of the fruit was ashamed of his nakedness as well as Eve. And so likewise in America and countries unacquainted with habits, where modesty conceals these parts in one sex, it doth it also in the other, and therefore had this been the intention of nature, not only women but men also had swimmed downwards; the posture in reason being common unto both, where the intent is also common.

Again, while herein we commend the modesty, we condemn the wisdom of nature: for that prone position we make her contrive unto the women, were best agreeable unto the man, in whom the secret parts are very anterior and more discoverable in a supine and upward posture; and therefore Scaliger declining this reason, hath recurred unto another from the difference of parts in both sexes; *Quod ventre vasto* *sunt mulieres plenoque intestinis, itaque minus impletur et subsidet, inanior maribus quibus nates præponderant*; if so, then men with great bellies will float downward, and only *Callipygæ*, and woman largely composed behind, upward. But anatomists observe, that to make the larger cavity, for the infant, the haunch-bones in women, and consequently the parts appendent are more protuberant than they are in men. They who ascribe the cause unto the breasts of women, take not away the doubt, for they resolve not why children float downward, who are included in that sex, though not in the reason alleged. But hereof we cease to discourse, lest we undertake to afford a reason of the golden tooth, * that is, to invent or assign a cause, when we remain unsatisfied or unassured of the effect.

That a mare will sooner drown than a horse, though commonly opinioned, is not I fear experienced; nor is the same observed in the drowning of whelps and kitlings. But that a man cannot shut or open his eyes under water, easy experiment may convict. Whether cripples and mutilated persons, who have lost the greatest part of their thighs, will not sink but float, their lungs being abler to waft up their bodies, which are in others overpoised by the hinder legs; we have not made experiment. Thus much we observe, that animals drown downwards, and the same is observable in frogs, when the hinder legs are cut off; but in the air most seem to perish headlong from high places: however Vulcan thrown from heaven be made to fall on his feet.[4]

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* Of the cause whereof much dispute was made, and at last proved an imposture.

[4] *That a mare, &c.*] This paragraph added in 2nd edition.

CHAPTER VII.

That Men weigh heavier dead than alive, and before meat than after.

That men weigh heavier dead than alive, if experiment hath not failed us, we cannot reasonably grant.[5] For though the trial hereof cannot so well be made on the body of man, nor will the difference be sensible in the debate of scruples or drachms, yet can we not confirm the same in lesser animals, from whence the inference is good, and the affirmative of Pliny saith, that it is true in all. For exactly weighing and strangling a chicken in the scales, upon an immediate ponderation, we could discover no sensible difference in weight, but suffering it to lie eight or ten hours, until it grew perfectly cold, it weighed most sensibly lighter; the like we attempted and verified in mice, and performed their trials in scales that would turn upon the eighth or tenth part of a grain.

Now whereas some allege that spirits are lighter substances, and naturally ascending, do elevate and waft the body upward, whereof dead bodies being destitute contract a greater gravity; although we concede that spirits are light, comparatively unto the body, yet that they are absolutely so, or have no weight at all, we cannot readily allow. For since philosophy affirmeth that spirits are middle substances between the soul and body, they must admit of some corporeity, which supposeth weight or gravity. Beside in carcasses warm, and bodies newly disanimated, while transpiration remaineth, there do exhale and breathe out vaporous and fluid parts, which carry away some power of gravitation. Which though we allow we do not make answerable unto living expiration, and therefore the chicken or mice were not so light being dead, as they would have been after ten hours kept alive, for in that space a man abateth many ounces: nor if it had slept, for in that space of sleep, a man will sometimes abate forty ounces: nor if it had been in the middle of summer, for then a man weigheth some pounds less than in the height of winter, according to experience, and the statick aphorisms of Sanctorius.

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[5] *That men weigh heavier, &c.*] What shall be said of the man who can use such an argument as the following:—"Why doth a man fall down in his sleep, who stood upright when he was awake, if he be not heavier than he was?" *Ross Arcana*, p. 100. Truly we may say, "Every man is not a proper champion for truth, norfit to take up the gauntlet in the cause of verity!"—*Rel. Med.* p. 9.

The result of modern investigation seems to confirm the opinion so preposterously advocated by Ross; at least it shews that the specific gravity of the human body is in reality greater after death than it was while living. Dalton, in an interesting paper on the *Effects of Atmospheric Pressure on the Animal Frame*, published in the 10th vol. of the *Manchester Memoirs*, thus sums up: "Upon the whole I am inclined to believe the true explanation of the difficulty will be found in this, that the whole substance of the body is pervious to air, and that a considerable portion of it constantly exists in the body during life subject to increase and diminution according to the pressure of the atmosphere, in the same manner as it exists in water, and further, that when life is extinct, this air in some degree escapes and renders the parts specifically heavier than when the vital functions were in a state of activity."

Again, whereas men affirm they perceive an addition of ponderosity in dead bodies, comparing them usually unto blocks and stones, whensoever they lift or carry them; this accessional preponderancy is rather in appearance than reality. For being destitute of any motion, they confer no relief unto the agents or elevators, which make us meet with the same complaints of gravity in animated and living bodies, where the nerves subside, and the faculty locomotive seems abolished, as may be observed in the lifting or supporting of persons inebriated, apoplectical, or in lipothymies and swoonings.

Many are also of opinion, and some learned men maintain, that men are lighter after meals than before, and that by a supply and addition of spirits obscuring the gross ponderosity of the aliment ingested; but the contrary hereof we have found in the trial of sundry persons in different sex and ages. And we conceive men may mistake, if they distinguish not the sense of levity unto themselves, and in regard of the scale, or decision of trutination.[6] For after a draught of wine, a man may seem lighter in himself from sudden refection, although he be heavier in the balance, from a corporal and ponderous addition; but a man in the morning is lighter in the scale, because in sleep some pounds have perspired; and is also lighter unto himself, because he is refected.

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[6] *trutination.*] The act of weighing in scales; from *trutina*.

And to speak strictly, a man that holds his breath is weightier while his lungs are full, than upon expiration. For a bladder blown is weightier than one empty; and if it contain a quart, expressed and emptied it will abate about a quarter of a grain. And therefore we somewhat mistrust the experiment of a pumice-stone taken up by Montanus, in his comment upon Avicenna, where declaring how the rarity of parts, and numerosity of pores, occasioneth a lightness in bodies, he affirms that a pumice-stone powdered is lighter than one entire; which is an experiment beyond our satisfaction; for, beside that abatement can hardly be avoided in the trituration, if a bladder of good capacity will scarce include a grain of air, a pumice of three or four drachms, cannot be presumed to contain the hundredth part thereof; which will not be sensible upon the exactest beams we use. Nor is it to be taken strictly, what is delivered by the learned Lord Verulam, and referred unto further experiment; that a dissolution of iron in *aqua fortis*, will bear as good weight as their bodies did before, notwithstanding a great deal of waste by a thick vapour that issueth during the working: for we cannot find it to hold either in iron or copper, which is dissolved with less ebullition; and hereof we made trial in scales of good exactness; wherein if there be a defect, or such as will not turn upon quarter grains, there may be frequent mistakes in experiments of this nature. That also may be considered which is delivered by Hamerus Poppius, that antimony calcined or reduced to ashes by a burning glass, although it emit a gross and ponderous exhalation, doth rather exceed than abate its former gravity.[7] Nevertheless, strange it is, how very little and almost insensible abatement there will be sometimes in such operations, or rather some increase, as in the refining of metals, in the test of bone-ashes, according to experience: and in a burnt brick, as Monsieur de Calve,* affirmeth. Mistake may be made in this way of trial; when the antimony is not weighed immediately upon the calcination, but permitted the air, it imbibeth the humidity thereof, and so repaireth its gravity.

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[7] *that antimony, &c.*] This is like that other refuted before, that a pumice powdered weighs heavier then before. —*Wr.*

CHAPTER VIII.

That there are several passages for Meat and Drink.

THAT there are different passages for meat and drink, the meat or dry aliment descending by the one, the drink or moistening vehicle by the other, is a popular tenet in our days, but was the assertion of learned men of old. For the same was affirmed by Plato, maintained by Eustathius in Macrobius, and is deducible from Eratosthenes, Eupolis and Euripides. Now herein men contradict experience, not well understanding anatomy, and the use of parts. For at the throat there are two cavities or conducting parts; the one the *œsophagus* or gullet, seated next the spine, a part official unto nutrition, and whereby the aliment both wet and dry is conveyed unto the stomach; the other (by which 't is conceived the drink doth pass) is the weazand, rough artery, or wind-pipe, a part inservient to voice and respiration; for thereby the air descendeth into the lungs, and is communicated unto the heart. And therefore, all animals that breathe or have lungs, have also the weazand; but many have the gullet or feeding channel, which have no lungs or wind-pipe; as fishes which have gills, whereby the heart is refrigerated; for such thereof as have lungs and respiration, are not without the weazand, as whales and cetaceous animals.

Again, beside these parts destined to divers offices, there is a peculiar provision for the wind-pipe, that is, a cartilagineous flap upon the opening of the larynx or throttle, which hath an open cavity for the admission of the air; but lest thereby either meat or drink should descend, Providence hath placed the *epiglottis*, *ligula*, or flap like an ivy leaf, which always closeth when we swallow, or when the meat and drink passeth over it into the gullet. Which part although all have not that breathe, as all cetaceous and oviparous animals, yet is the weazand secured some other way; and therefore in whales that breathe, lest the water should get into the lungs, an ejection thereof is contrived by a *fistula* or spout at the head. And therefore also, though birds have no *epiglottis*, yet can they so contract the rim or chink of their *larynx*, as to prevent the admission of wet or dry ingested; either whereof getting in, occasioneth a cough, until it be ejected. And this is the reason why a man cannot drink and breathe at the same time; why, if we laugh while we drink, the drink flies out at the nostrils; why, when the water enters the weazand, men are suddenly drowned; and thus must it be understood, when we read of one that died by the seed of a grape,* and another by an hair in milk.[8]

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* *Des Pierres.*

Now if any shall affirm, that some truth there is in the assertion, upon the experiment of Hippocrates, who, killing an hog after a red potion, found the tincture thereof in the larynx; if any will urge the same from medical practice, because in affections both of lungs and weazand, physicians make use of syrups, and lambitive medicines;[9] we are not averse to acknowledge, that some may distil and insinuate into the wind-pipe, and medicines may creep down, as well as the rheum before them: yet to conclude from hence, that air and water have both one common passage, were to state the question upon the weaker side of the distinction, and from a partial or guttulous irrigation to conclude a total descension.

* Anacreon the Poet, if the story be taken literally.

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[8] *by an hair in milk.*] And a woman in Knowle, Wiltes, by a piece of the great tendon in a neck of veale (which is commonly cald the Halifax) which getting sodenly within the larinx chokt her.—*Wr.* See my note relating the death of Lord Boringdon, at p. 336.

[9] *syrups.*] In a dangerous catharr, the end of giving syrupes is, that sliding downe with the rheumes, they may both abate and correct the cold crude salt corroding qualityes of rheumes: and withall by the heat of the ingredients, and the balmy benigne quality of sugar, att once arme and warme the lungs, and withall thicken the rheum that fals, that itt may bee more easily expectorated.—*Wr.*

CHAPTER IX.

Of saluting upon Sneezing.

CONCERNING Sternutation or Sneezing, and the custom of saluting or blessing upon that motion, it is pretended, and generally believed, to derive its original from a disease, wherein sternutation proved mortal, and such as sneezed, died. And this may seem to be proved from Carolus Sigonius, who in his History of Italy, makes mention of a pestilence in the time of Gregory the Great, that proved pernicious and deadly to those that sneezed. Which notwithstanding will not sufficiently determine the grounds hereof, that custom having an elder era than this chronology affordeth.

For although the age of Gregory extend above a thousand, yet is this custom mentioned by Apuleius, in the fable of the fuller's wife, who lived three hundred years before, by Pliny in that problem of his, *cur sternutantes salutantur;* and there are also reports that Tiberius the emperor, otherwise a very sour man, would perform this rite most punctually unto others, and expect the same from others unto himself. Petronius Arbiter, who lived before them both, and was proconsul of Bithynia in the reign of Nero, hath mentioned it in these words, *Gyton collectione spiritûs plenus, ter continuò itâ sternutavit, ut grabatum concuteret, ad quem motum Eumolpus conversus, Salvere Gytona jubet.* Cœlius Rhodiginus hath an example hereof among the Greeks, far ancienter than these, that is, in the time of Cyrus the younger, when consulting about their retreat, it chanced that one among them sneezed, at the noise whereof the rest of the soldiers called upon Jupiter Soter. There is also in the Greek *Anthology* a remarkable mention hereof in an epigram, upon one Proclus; the Latin whereof we shall deliver, as we find it often translated.

Non potis est Proclus digitis emungere nasum,
Namq; est pro nasi mole pusilla manus:
Non vocat ille Jovem sternutans, quippe nec audit
Sternutamentum, tam procul aure sonat.

Proclus with his hand his nose can never wipe,
His hand too little is his nose to gripe;
He sneezing calls not *Jove*, for why? he hears
Himself not sneeze, the sound 's so far from 's ears.

Nor was this only an ancient custom among the Greeks and Romans, and is still in force with us, but is received at this day in remotest parts of Africa.[1] For so we read in Codignus,* that upon a sneeze of the Emperor of Monomotapa, there passed acclamations successive through the city; and as remarkable an example there is of the same custom, in the remotest parts of the East, recorded in the travels of Pinto.

But the history will run much higher, if we should take in the rabbinical account hereof, that sneezing was a mortal sign even from the first man, until it was taken off by the special supplication of Jacob. From whence, as a thankful acknowledgment, this salutation first began, and was after continued by the expression of *Tobim Chaiim*, or *vita bona*, by standers by, upon all occasion of sneezing.[2]

Now the ground of this ancient custom was probably the opinion the ancients held of sternutation,[3] which they generally conceived to be a good sign or a bad, and so upon this motion accordingly used a *salve* or Ζεῦ σῶσον, as a gratulation for the one, and a deprecation for the other. Now of the ways whereby they enquired and determined its signality; the first was natural, arising from physical causes, and consequences oftentimes naturally succeeding this motion, and so it might be justly esteemed a good sign; for sneezing being properly a motion of the brain, suddenly expelling through the nostrils what is offensive unto it, it cannot but afford some

* *De rebus Abassinorum.*

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[1] *Africa,*] And in Otaheite.—*Jeff.*

[2] *And as remarkable, &c.*] This sentence and the following paragraph were added in 3rd edition.

[3] *sternutation.*] Physitians generallye define itt to be the trumpet of nature upon the ejection of a noxious vapour from the braine, and therefore saye rightly itt is *bonum signum malæ causæ, sc. depulsæ.*—*Wr.*

evidence of its vigour, and therefore, saith Aristotle,* they that hear it, προσκυνοῦσιν ὡς ἵερον, 'honour it as somewhat sacred,' and a sign of sanity in the diviner part, and this he illustrates from the practice of physicians, who in persons near death, do use sternutatories, or such medicines as provoke unto sneezing, when if the faculty awaketh, and sternutation ensueth, they conceive hopes of life, and with gratulation receive the signs of safety.† And so is it also of good signality, according to that of Hippocrates, that sneezing cureth the hiccough, and is profitable unto women in hard labour, and so is it good in lethargies, apoplexies, catalepsies, and comas. And in this natural way is it sometime likewise of bad effects or signs, and may give hints of deprecation; as in diseases of the chest, for therein Hippocrates condemneth it as too much exagitating; in the beginning of catarrhs, according unto Avicenna, as hindering concoction; in new and tender conceptions, as Pliny observeth, for then it endangers abortion.

The second way was superstitious and augurial, as Cœlius Rhodiginus hath illustrated in testimonies as ancient as Theocritus and Homer; as appears from the Athenian master, who would have retired because a boat-man sneezed; and the testimony of Austin, that the ancients were wont to go to bed again if they sneezed while they put on their shoe. And in this way it was also of good and bad signification; so Aristotle hath a problem, why sneezing from noon unto midnight was good, but from night to noon unlucky. So Eustathius upon Homer observes, that sneezing to the left hand was unlucky, but prosperous unto the right; so, as Plutarch relateth, when Themistocles sacrificed in his galley before the battle of Xerxes, and one of the assistants upon the right hand sneezed, Euphrantides, the soothsayer, presaged the victory of the Greeks, and the overthrow of the Persians.

Thus we may perceive the custom is more ancient than commonly conceived, and these opinions hereof in all ages, not any one disease, to have been the occasion of this salute and deprecation. Arising at first from this vehement and affrighting motion of the brain, inevitably observable unto the standers by; from whence some finding dependent effects to ensue, others ascribing hereto as a cause what perhaps but casually or inconnexedly succeeded, they might proceed unto forms of speeches, felicitating the good, or deprecating the evil to follow.

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* *Problems*, sect. 33.

† 2 Kings iv, 35.

CHAPTER X.

That Jews Stink.

THAT Jews stink[4] naturally, that is, that in their race and nation there is an evil savour, is a received opinion we know not how to admit, although we concede many questionable points, and dispute not the verity of sundry opinions which are of affinity hereto. We will acknowledge that certain odours attend on animals, no less than certain colours; that pleasant smells are not confined unto vegetables, but found in divers animals, and some more richly than in plants; and though the problem of Aristotle enquires why no animal smells sweet beside the pard, yet later discoveries add divers sorts of monkeys, the civet cat and gazela, from which our musk proceedeth. We confess that beside the smell of the species there may be individual odours, and every man may have a proper and peculiar savour, which although not perceptible unto man, who hath this sense but weak, is yet sensible unto dogs, who hereby can single out their masters in the dark. We will not deny that particular men have sent forth a pleasant savour, as Theophrastus and Plutarch report of Alexander the Great, and Tzetzes and Cardan do testify of themselves. That some may also emit an unsavory odour, we have no reason to deny; for this may happen from the quality of what they have taken, the fœtor whereof may discover itself by sweat and urine, as being unmasterable by the natural heat of man, not to be dulcified by concoction beyond an unsavory condition; the like may come to pass from putrid humours, as is often discoverable in putrid and malignant fevers; and sometime also in gross and humid bodies even in the latitude of sanity, the natural heat of the parts being insufficient for a perfect and thorough digestion, and the errors of one concoction not rectifiable by another. But that an unsavory odour is gentilitious or national unto the Jews, if rightly understood, we cannot well concede, nor will the information of reason or sense induce it.

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[4] *That Jews stink*] The Jews anxiously observing the prohibited eating of blood keepe their flesh covered with onyons and garleek till itt putrifie, and contracte as bad a smell as that of rottenes from those strong sawces; and soe by continual use thereof emit a loathsom savour, as Mr. Fulham experimented in Italye at a Jewish meeting, with the hazard of life, till he removed into the fresh air. *Teste ipso fide dignissimo.—Wr.*

Howell, in a letter written to Lord Clifford, in reply to his enquiries respecting the Jews, does not hesitate to adopt the common opinion as one so well known as to need no proof. "As they are," says he, "the most contemptible people, and have a kind of fulsome scent, no better than a stink, that distinguisheth them from others, so they are the most timorous people on earth, &c." *Familiar Letters*, book I, § 6, letter XV, p. 252.

For first, upon consult of reason, there will be found no easy assurance to fasten a material or temperamental propriety upon any nation; there being scarce any condition (but what depends upon clime) which is not exhausted or obscured from the commixture of introvenient nations either by commerce or conquest; much more will it be difficult to make out this affection in the Jews; whose race however pretendded to be pure, must needs have suffered inseparable commixtures with nations of all sorts; not only in regard of their proselytes, but their universal dispersion; some being posted from several parts of the earth, others quite lost, and swallowed up in those nations where they planted. For the tribes of Reuben, Gad, part of Manasses and Naphthali, which were taken by Assur, and the rest at the sacking of Samaria, which were led away by Salmanasser into Assyria, and after a year and half arrived at Arsereth, as is delivered in Esdras; these I say never returned,[5] and are by the Jews as vainly expected as their Messias. Of those of the tribe of Judah and Benjamin, which were led captive into Babylon by Nebuchadnezzar, many returned under Zorobabel; the rest remained, and from thence long after, upon invasion of the Saracens, fled as far as India; where yet they are said to remain, but with little difference from the Gentiles.

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[5] *For the tribes, &c.*] The subsequent history of the ten tribes, who were carried into captivity at the fall of Samaria, has ever remained and must remain a matter of conjecture.—It is however most probable that our author's supposition is correct. Dr. Claudius Buchanan, is satisfied "that the greater part of the ten tribes, which now exist, are to be found in the countries of their first captivity." In support of which opinion he cites the following passage from a speech of King Agrippa to the Jews, in the reign of Vespasian;—"What, do you stretch your hopes beyond the river Euphrates?—Do any of you think that your fellow-tribes will come to your aid out of *Adiabene*? Besides, if they would

The tribes that returned to Judea, were afterward widely dispersed; for beside sixteen thousand which Titus sent to Rome under the triumph of his father Vespasian, he sold no less than an hundred thousand for slaves. Not many years after, Adrian the emperor, who ruined the whole country, transplanted many thousands into Spain, from whence they dispersed into divers countries, as into France and England, but were banished after from both. From Spain they dispersed into Africa, Italy, Constantinople, and the dominions of the Turk, where they remain as yet in very great numbers. And if, (according to good relations,) where they may freely speak it, they forbear not to boast that there are at present many thousand Jews in Spain, France, and England, and some dispensed withal even to the degree of priesthood; it is a matter very considerable, and could they be smelled out, would much advantage, not only the church of Christ, but also the coffers of princes.[6]

Now having thus lived in several countries, and always in subjection, they must needs have suffered many commixtures; and we are sure they are not exempted from the common

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come, the Parthian will not permit it. "*Joseph. de Bell.* lib. ii, c. 28,—a proof, as the Dr. remarks, that the ten tribes were still in captivity, in Media, under the Persian princes, during the 1st century of the Christian era, 700 years after their transplantation. Again he adduces a passage from Jerome, written in the 5th century, in his notes on Hosea;—"unto this day the ten tribes are subject to the Kings of the Persians, *nor* has *their* captivity ever been loosed." He says also, "the ten tribes inhabit at this day the cities and mountains of the Medes," tom. vi, p. 80. To this day, continues Dr. B., no family, Jew, or Christian, is permitted to leave the Persian territories without the king's permission.—See Dr. Claudius Buchanan's *Christian Researches in Asia*, p. 239.

The Samaritan traditions however might lead to the opinion that a considerable remnant of the Israelites avoided captivity, and were left on the soil of Palestine. The singular fact that they have preserved the Mosaic law in the ruder and more ancient character, strongly confirms this hypothesis, which derives additional support also from various other considerations.—See *History of the Jews, (Fam. Lib.)* ii, 10.

[6] *The tribes, &c.*] The subject of this paragraph is fully treated in the course of the *History of the Jews*, referred to in the preceding note: the last chapter of which gives a very elaborate and careful estimate of the present number of Jews in various countries.

contagion of venery contracted first from Christians. Nor are fornications unfrequent between them both; there commonly passing opinions of invitement, that their women desire copulation with them rather than their own nation, and affect Christian carnality above circumcised venery. It being therefore acknowledged, that some are lost, evident that others are mixed, and not assured that any are distinct, it will be hard to establish this quality upon the Jews, unless we also transfer the same unto those whose generations are mixed, whose genealogies are Jewish, and naturally derived from them.

Again, if we concede a national unsavouriness in any people, yet shall we find the Jews less subject hereto than any, and that in those regards which most powerfully concur to such effects, that is, their diet and generation. As for their diet, whether in obedience unto the precepts of reason, or the injunctions of parsimony, therein they are very temperate, seldom offending in ebriety or excess of drink, nor erring in gulosity or superfluity of meats; whereby they prevent indigestion and crudities,[7] and consequently putrescence of humours. They have in abomination all flesh maimed, or the inwards any way vitiated, and therefore eat no meat but of their own killing. They observe not only fasts at certain times, but are restrained unto very few dishes at all times; so few, that whereas S. Peter's sheet will hardly cover our tables, their law doth scarce permit them to set forth a lordly-feast; nor any way to answer the luxury of our times, or those of our fore-fathers. For of flesh their law restrains them many sorts, and such as complete our feasts: that animal, *propter convivia natum*,* they touch not, nor any of its preparations or parts, so much in respect at Roman tables, nor admit they unto their board, hares, conies, herons, plovers or swans. Of fishes they only taste of such as have both fins and scales, which are comparatively but few in number; such only, saith Aristotle, whose egg or spawn is arenaceous: whereby are excluded all cetaceous and cartilagineous fishes; many pectinal, whose ribs are rectilineal; many costal, which have their ribs embowed; all spinal, or such as have no ribs, but only a back-bone, or somewhat analogous thereto, as eels, congers, lampreys; all that are testaceous, as oysters, cockles, wilks, scollops, muscles; and likewise all crustaceous, as crabs, shrimps and lobsters. So that, obobserving a spare and simple diet, whereby they prevent the generation of crudities; and fasting often, whereby they might also digest them; they must be less inclinable unto this infirmity than any other nation, whose proceedings are not so reasonable to avoid it.

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* *Quanti est gula, quæ sibi totos ponit apros! Animal propter convivia natum.*

[7] *indigestion and crudityes,*] This cruditye of indigestion is soe cleerly discernable in the breath of children; that hee who comes fasting into a great schoole shall soone perceave itt, to his smell, most odious.—*Wr.*

As for their generations and conceptions, (which are the purer from good diet,) they become more pure and perfect by the strict observation of their law; upon the injunctions whereof, they severely observe the times of purification, and avoid all copulation, either in the uncleanness of themselves, or impurity of their women. A rule, I fear, not so well observed by Christians; whereby not only conceptions are prevented, but if they proceed, so vitiated and defiled, that durable inquinations remain upon the birth. Which, when the conception meets with these impurities, must needs be very potent; since in the purest and most fair conceptions, learned men derive the cause of pox and meazles, from principles of that nature; that is, the menstruous impurities in the mother's blood, and virulent tinctures contracted by the infant, in the nutriment of the womb.

Lastly, experience will convict it; for this offensive odour is no way discoverable in their synagogues where many are,[8] and by reason of their number could not be concealed: nor is the same discernable in commerce or conversation with such as are cleanly in apparel, and decent in their houses. Surely the Viziers and Turkish bashas are not of this opinion; who, as Sir Henry Blunt informeth, do generally keep a Jew of their private council. And were this true, the Jews themselves do not strictly make out the intention of their law: for in vain do they scruple to approach the dead, who livingly are cadaverous, or fear any outward pollution, whose temper pollutes themselves. And lastly, were this true, yet our opinion is not impartial; for unto converted Jews who are of the same seed, no man imputeth this unsavoury odour; as though aromatized by their conversion, they lost their scent with their religion, and smelt no longer than they savoured of the Jew.

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[8] *many are,*] See the evidence hereof, p. 36, undeniably prooved.—*Wr.*

Now the ground that begat or propagated this assertion, might be the distasteful averseness of the Christian from the Jew, upon the villany of that fact, which made them abominable and stink in the nostrils of all men. Which real practice and metaphorical expression did after proceed into a literal construction; but was a fraudulent illation; for such an evil savour their father Jacob acknowledged in himself, when he said his sons had made him stink in the land, that is, to be abominable unto the inhabitants thereof.* Now how dangerous it is in sensible things to use metaphorical expressions unto the people, and what absurd conceits they will swallow in their literals, an impatient[9] example we have in our own profession; who having called an eating ulcer by the name of a wolf, common apprehension conceives a reality therein, and against ourselves ocular affirmations are pretended to confirm it.

The nastiness of that nation, and sluttish course of life, hath much promoted the opinion, occasioned by their servile condition at first, and inferior ways of parsimony ever since; as is delivered by Mr. Sandys: they are generally fat, saith he, and rank of the savours which attend upon sluttish corpulency.[1] The epithets assigned them by ancient times, have also advanced the same; for Ammianus Marcellinus describeth them in such language, and Martial more ancient, in such a relative expression sets forth unsavoury Bassa.

Quod jejunia sabbatariorum
Mallem, quàm quod oles, olere, Bassa.

* Gen. xxxiv.

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[9] *impatient.*] *Lege* insufferable—*Wr.*

[1] *rank, &c.*] Which Mr. Fulham confirmd as above, p. 36. This is enoughe, leaving the cause to further inquisition.—*Wr.*

From whence, notwithstanding, we cannot infer an inward imperfection in the temper of that nation; it being but an effect in the breath from outward observation, in their strict and tedious fasting; and was a common effect in the breaths of other nations, became a proverb among the Greeks* and the reason thereof begot a problem in Aristotle.†

Lastly, if all were true, and were this savour conceded, yet are the reasons alleged for it no way satisfactory. Hucherius,† and after him Alsarius Crucius,‡ imputes this effect unto their abstinence from salt or salt meats;[2] which how to make good in the present diet of the Jews, we know not; nor shall we conceive it was observed of old, if we consider they seasoned every sacrifice, and all oblations whatsoever; whereof we cannot deny a great part was eaten by the priests. And if the offering were of flesh, it was salted no less than thrice, that is, once in the common chamber of salt, at the footstep of the altar, and upon the top thereof, as is at large delivered by Maimonides. Nor, if they refrained all salt, is the illation very urgent: for many there are not noted for ill odours,[3] which eat no salt at all; as all carnivorous animals, most children, many whole nations, and probably our fathers after the creation; there being indeed, in every thing we eat, a natural and concealed salt,[4] which is separated by digestions, as doth appear in our tears, sweat, and urines, although we refrain all salt, or what doth seem to contain it.

Another cause is urged by Campegius, and much received by Christians; that this ill savour is a curse derived upon them by Christ, and stands as a badge or brand of a generation that crucified their *Salvator*. But this is a conceit without all warrant, and an easy way to take off dispute in what point of obscurity soever. A method of many writers, which much depreciates the esteem and value of miracles; that is, therewith to salve not only real verities, but also non-existencies. Thus have elder times not only ascribed the immunity of Ireland from any venomous beast unto the staff or rod of Patrick, but the long tails of Kent unto the malediction of Austin.[5]

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* Νηστείας ὄζειν. *Jejunia olere.* † *De Sterilitate.* ‡ *Cruc. Med. Epist.*

[2] *salt meats.*] Which they supply with onyons and garlick, ut supra.—*Wr.*

[3] *not noted, &c.*] This is contraryed by experience. Supra, p. 36.—*Wr.*

[4] *salt.*] The earthy being separated, leaves the other sweet, not salt. But the many circulations of them acquiring saltnes from the naturall heate, send out that unnecessary saltnes in sweat and teares and urine, and generally in salivation.—*Wr.*

Thus therefore, although we concede that many opinions are true which hold some conformity unto this, yet in assenting hereto many difficulties must arise; it being a dangerous point to annex a constant property unto any nation, and much more this unto the Jew; since their quality is not verified by observation;[6] since the grounds are feeble that should establish it; and lastly, since if all were true, yet are the reasons alleged for it of no sufficiency to maintain it.

CHAPTER XI.

Of Pygmies.

By pigmies we understand a dwarfish race of people, or lowest diminution of mankind, comprehended in one cubit, or as some will have it, in two foot or three spans; not taking them single, but nationally considering them, and as they make up an aggregated habitation. Whereof, although affirmations be many, and testimonies more frequent than in any other point which wise men have cast into the list of fables, yet that there is, or ever was such a race or nation, upon exact and confirmed testimonies, our strictest enquiry receives no satisfaction.[7]

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[5] *long-tails of Kent.*] Bailey gives the following notice of these gentry :—"The Kentish men are said to have had long tails for some generations; by way of punishment, as some say, for the Kentish Pagans abusing Austin the monk and his associates, by beating them, and opprobriously tying fish-tails to their backsides; in revenge of which, such appendants grew to the hind parts of all that generation. But the scene of this lying wonder was not in Kent, but in Carne, in Dorsetshire, many miles off. Others again say it was for cutting off the tail of St. Thomas of Canterbury's horse, who, being out of favour with King Henry II, riding towards Canterbury upon a poor sorry horse, was so served by the common people."

[6] *not verifiable, &c.*] It is, ut supra, p. 36.—*Wr.*

[7] *By pygmies, &c.*] Ross contends,—as he almost invariably does—for the truth of the old saying. He argues that "it stands with reason there should be such, that God's wisdom might be seen in all sorts of magnitudes; for if there have been giants, why not also pygmies,

I say "exact testimony," first, in regard of the authors from whom we derive the account: for, though we meet herewith in Herodotus, Philostratus, Mela, Pliny, Solinus, and many more, yet were they derivative relators, and the primitive author was Homer: who, using often similies, as well to delight the ear, as to illustrate his matter, in the third of his Iliads, compareth the Trojans unto cranes, when they descend against the pigmies; which was more largely set out by Oppian, Juvenal, Mantuan, and many poets since, and being only a pleasant figment in the fountain, became a solemn story in the stream, and current still among us.

Again,[8] many professed enquirers have rejected it. Strabo, an exact and judicious geographer, hath largely condemned it as a fabulous story. Julius Scaliger, a diligent enquirer, accounts thereof but as a poetical fiction. Ulysses Aldrovandus, a most exact zoographer, in an express discourse hereon, concludes the story fabulous, and a poetical account of Homer; and the same was formerly conceived by Eustathius, his excellent commentator. Albertus Magnus, a man ofttimes too credulous, herein was more than dubious; for he affirmeth if any such dwarfs were ever extant, they were surely some kind of apes; which is a conceit allowed by Cardan,[9] and not esteemed improbable by many others.

There are, I confess, two testimonies, which from their authority, admit of consideration. The first, of Aristotle,* whose words are these, ἔστι δὲ ὁ τόπος, &c. That is, *Hic locus est quem incolunt pygmæi, non enim id fabula est, sed pusillum genus ut aiunt.* Wherein indeed Aristotle plays the Aristotle, that is, the wary and evading assertor; for though with *non est fabula* he seem at first to confirm it, yet at the last he claps in *ut aiunt*, and shakes the belief he put before upon it. And therefore I observe Scaliger hath not translated the first; perhaps supposing it surreptitious or unworthy so great an assertor. And truly for those books of animals, or work of eight hundred talents, as Athenæus terms it, although ever to be admired, as containing most excellent truths, yet are many things therein delivered upon relation, and some repugnant unto the history of our senses; as we are able to make out in some, and Scaliger hath observed in many more, as he hath freely declared in his comment upon that piece.

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* *Hist. Animal.* lib. viii.

nature being as propense to the least, as to the greatest magnitude. He adduces the testimony of Buchanan, who, speaking of the isles of Scotland, amongst the rest sets down the Isle of Pygmies.

[8] *Again.*] This paragraph is taken almost verbatim from Cardan in the place cited below.—*Wr.*

[9] *Cardan.*] Rightly does he quote Cardan, who in the 8th book, *De Varietate*, cap. xl, p. 527, approves of Strabo's judgement of Homer's fiction: and concludes they were mistaken, being not other then *apes.*—*Wr.*

The second testimony is deduced from Holy Scripture,* thus rendered in vulgar translation; *Sed et Pygmæi qui erant in turribus tuis, pharetras suas suspenderunt in muris tuis per gyrum*; from whence notwithstanding we cannot infer this assertion. For, first, the translators accord not, and the Hebrew word *gammadim* is very variously rendered. Though Aquila, Vatablus, and Lyra will have it *pygmei,* yet in the Septuagint it is no more than watchmen, and so in the Arabic and High Dutch. In the Chaldee, Cappadocians; in Symmachus, Medes; and in the French, those of Gamad. Theodotion of old, and Tremellius of late, have retained the textuary word, and so have the Italian, low Dutch and English translators; that is, the men of Arvad were upon thy walls round about, and the Gammadims were in thy towers. Nor do men only dissent in the translation of the word, but in the exposition of the sense and meaning hereof; for some by Gammadims understand a people of Syria, so called from the city Gamala;† some hereby understand the Cappadocians, many the Medes; and hereof Forerius hath a singular exposition, conceiving the watchmen of Tyre might well be called pygmies, the towers of that city being so high, that unto men below they appeared in a cubital stature. Others expounded it quite contrary to common acception, that is, not men of the least, but of the largest size; so doth Cornelius construe *pygmæi,* or *viri cubitales,* that is, not men of a cubit high, but of the largest stature, whose height like that of giants, is rather to be taken by the cubit than the foot; in which phrase we read the measure of Goliah, whose height is said to be six cubits and a span. Of affinity hereto is also the exposition of Jerom; not taking pygmies for dwarfs, but stout and valiant champions; not taking the sense of πυγμὴ, which signifies the cubit measure, but that which expresseth pugils, that is, men fit for combat and the exercise of the fist. Thus can there be no satisfying illation from this text, the diversity or rather contrariety of expositions and interpretations, distracting more than confirming the truth of the story.[1]

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* Ezek. xxvii, 12.

† See Mr. Fuller's excellent description of Palestine.

Again, I say, exact testimonies, in reference unto circumstantial relations so diversely or contrarily delivered. Thus the relation of Aristotle placeth them above Egypt towards the head of the Nile in Africa. Philostratus affirms they are about Ganges in Asia, and Pliny in a third place, that is, Gerania in Scythia; some write they fight with cranes, but Menecles, in Athenæus, affirms they fight with partridges; some say they ride on partridges, and some on the backs of rams.

Lastly, I say, confirmed testimonies; for though Paulus Jovius delivers there are pygmies beyond Japan, Pigafeta, about the Moluccas, and Olaus Magnus placeth them in Greenland, yet wanting frequent confirmation in a matter so confirmable, their affirmation carrieth but slow persuasion, and wise men may think there is as much reality in the pygmies of Paracelsus,* that is, his non-adamical men, or middle natures betwixt men and spirits.

There being thus no sufficient confirmation of their verity, some doubt may arise concerning their possibility, wherein, since it is not defined in what dimensions the soul may exercise her faculties, we shall not conclude impossibility, or that there might not be a race of pygmies, as there is sometimes of giants. So may we take in the opinion of Austin, and his comment Ludovicus.[2] But to believe they should be in the stature of a foot or span, requires the preaspection of such a one as Philetas, the poet, in Athenæus, who was fain to fasten lead unto his feet, lest the wind should blow him away; or that other in the same author, who was so little *ut ad obolum accederet;* a story so strange, that we might herein excuse the printer, did not the account of Ælian accord unto it, as Casaubon hath observed in his learned animadversions.

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* By pygmies intending fairies and other spirits about the earth; as by nymphs and salamanders, spirits of fire and water. *Lib. De Pygmæis, Nymphis, &c.*

[1] *story.*] The least I suppose that ever was seen and lived long, was Lucius Augustus his dwarfe, who was *bipedali minor, librarum septendecim, sed vocis immensæ. Suetonius in Octavio,* § 53. Certainly few apes come under this hight.

[2] *Ludovicus.*] Lud. Vives.

Lastly, if any such nation there were, yet it is ridiculous what men have delivered of them; that they fight with cranes upon the backs of rams or patridges; or what is delivered by Ctesias, that they are negroes in the midst of India, whereof the king of that country entertaineth three thousand archers for his guard, which is a relation below the tale of Oberon; nor could they better defend him than the emblem saith, they offended Hercules whilst he slept, that is, to wound him no deeper than to awake him.

CHAPTER XII.

Of the Great Climacterical Year, that is, Sixty-three.

Concerning the eyes of the understanding, and those of the sense, are differently deceived in their greatest objects. The sense apprehending them in lesser magnitudes than their dimensions require; so it beholdeth the sun, the stars, and the earth itself. But the understanding quite otherwise; for that ascribeth unto many things far larger horizons than their due circumscriptions require, and receiveth them with amplifications which their reality will not admit. Thus hath it fared with many heroes and most worthy persons, who, being sufficiently commendable from true and unquestionable merits, have received advancement from falsehood and the fruitful stock of fables. Thus hath it happened unto the stars, and luminaries of heaven; who, being sufficiently admirable in themselves, have been set out by effects, no way dependent on their efficiencies, and advanced by amplifications to the questioning of their true endowments. Thus is it not improbable it hath also fared with number, which though wonderful in itself, and sufficiently magnifiable from its demonstrable affections, hath yet received adjections from the multiplying conceits of men, and stands laden with additions which its equity will not admit.

And so perhaps hath it happened unto the numbers seven and nine, which multiplied into themselves do make up sixty-three, commonly esteemed the great climacterical of our lives. For the days of men are usually cast up by septenaries, and every seventh year conceived to carry some altering character with it, either in the temper of body, mind, or both. But among all other, three are most remarkable, that is, seven times seven, or forty-nine; nine times nine, or eighty-one; and seven times nine, or the year of sixty three, which is conceived to carry with it the most considerable fatality, and consisting of both the other numbers, was apprehended to comprise the virtue of either, is therefore expected and entertained with fear, and esteemed a favour of fate to pass it over; which, notwithstanding, many suspect to be but a panic terror, and men to fear they justly know not what, and to speak indifferently I find no satisfaction, nor any sufficiency in the received grounds to establish a rational fear.

Now herein to omit astrological considerations (which are but rarely introduced,) the popular foundation whereby it hath continued, is first, the extraordinary power and secret virtue conceived to attend these numbers, whereof we must confess there have not wanted, not only especial commendations, but very singular conceptions. Among philosophers, Pythagoras seems to have played the leading part, which was long after continued by his disciples and the Italick school. The philosophy of Plato, and most of the Platonists, abounds in numeral considerations. Above all, Philo, the learned Jew, hath acted this part even to superstition, bestowing divers pages in summing up every thing, which might advantage this number. Which, notwithstanding, when a serious reader shall perpend, he will hardly find any thing that may convince his judgment, or any further persuade than the lenity of his belief, or prejudgment of reason inclineth.[3]

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[3] *Which, notwithstanding, &c.*] The excellent Bishop Hall sums up in the following brief and pious exclamation:— "Away with all niceties of Pythagorean

For first, not only the numbers seven and nine, from considerations abstruse have been extolled by most, but all or most of the other digits have been as mystically applauded. For the numbers one and three have not been only admired by the heathens, but from adorable grounds, the unity of God, and mystery of the Trinity, admired by many Christians. The number four stands much admired, not only in the quaternity of the elements, (which are the principles of bodies,) but in the letters of the name of God, (which in the Greek, Arabian, Persian, Hebrew and Egyptian, consisteth of that number,) and was so venerable among the Pythagoreans, that they swore by the number four.[4] That of six hath found many leaves in its favour; not only for the days of the creation, but its natural consideration, as being a perfect number, and the first that is completed by its parts, that is the sixth, the half, and the third, 1, 2, 3, which drawn into a sum make six. The number of ten hath been as highly extolled, as containing even, odd, long, plain, quadrate and cubical numbers; and Aristotle observed with admiration, that Barbarians, as well as Greeks, did use a numeration unto ten, which being so general was not to be judged casual, but to have a foundation in nature. So that not only seven and nine, but all the rest have had their eulogies, as may be observed at large in Rhodiginus, and in several writers since; every one extolling number, according to his subject, and as it advantaged the present discourse in hand.

Again, they have been commended, not only from pretended grounds in nature, but from artificial, casual, or fabulous foundations: so have some endeavoured to advance their admiration, from the nine muses, from the seven wonders of the world, from the seven gates of Thebes; in that seven cities contended for Homer, in that there are seven stars in Ursa minor, and seven in Charles's wain, or Plaustrum of Ursa major. Wherein indeed, although the ground be natural, yet, either from constellations or their remarkable

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calculations; all numbers are alike to me, save those which God himself hath chalked out to us!"—*Bp. Hall's Works*, p. 510.

[4] *four.*] 5: for the dimensions of man, dilated into a *pentalpha*.—*Wr.*

It is not a little singular that, in this enumeration, the author of the *Quincunx* should have omitted the number five.

parts, there is the like occasion to commend any other number; the number five from the stars in Sagitta, three from the girdle of Orion, and four from Equiculus, Crusero, or the feet of the Centaur: yet are such as these clapped in by very good authors, and some not omitted by Philo.

Nor are they only extolled from arbitrary and poetical grounds, but from foundations and principles, false or dubious. That women are menstruant, and men pubescent at the year of twice seven is accounted a punctual truth; which period nevertheless we dare not precisely determine, as having observed a variation and latitude in most, agreeable unto the heat of clime or temper; men arising variously unto virility, according to the activity of causes that promote it. *Sanguis menstruosus ad diem, ut plurimum, septimum durat,* saith Philo: which notwithstanding is repugnant unto experience, and the doctrine of Hippocrates; who in his book, *de diæta,* plainly affirmeth, it is thus but with few women, and only such as abound with pituitous and watery humours.

It is further conceived to receive addition, in that there are seven heads of Nile; but we have made manifest elsewhere,[5] that by the description of geographers, they have been sometime more,[6] and are at present fewer; in that there were seven wise men of Greece; which though generally received, yet having enquired into the verity thereof we cannot so readily determine it: for in the life of Thales, who was accounted in that number, Diogenes Laertius plainly saith, *Magna de eorum numero discordia est,* some holding but four, some ten, others twelve, and none agreeing in their names, though according in their number. In that there are just seven[7] planets or errant stars in the lower orbs of heaven: but it is now demonstrable unto sense, that there are many more, as Galileo* hath declared; that is, two

* *Nuncius Syderus.*

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[5] *elsewhere,*] See book vi, c. 8.

[6] *more,*] Honterus reckoned of old, noe fewer then 16: whereof now the slime of Nilus (since itt was banked in divers places) hath obstructed eleven.—*Wr.*

[7] *seven,*] Yf the sun be sett in the center of the universe fixte and immoveable, as the Copernicans contend, then there are but 5 primarye planets as they call them. For the moon they say is a secondary planet, and the earthe another.—*Wr.*—We must suspect an error in this note.

more in the orb of Saturn, and no less than four or more in the sphere of Jupiter. And the like may be said of the pleiades or seven stars, which are also introduced to magnify this number; for whereas, scarce discerning six, we account them seven, by his relation, there are no less than forty.[8]

That the heavens are encompassed with seven circles,[9] is also the allegation of Philo; which are, in his account, the arctick, antarctick, the summer and winter tropicks, the equator, zodiack, and the milky circle; whereas by astronomers they are received in greater number. For though we leave out the lacteous circle, (which Aratus, Geminus, (and Proclus, out of him,) hath numbered among the rest,) yet are there more by four than Philo mentions; that is, the horizon, meridian, and both the colures; circles very considerable, and generally delivered, not only by Ptolemy, and the astronomers since his time, but such as flourished long before, as Hipparchus and Eudoxus. So that, for ought I know, if it make for our purpose, or advance the theme in hand, with equal liberty we may affirm there were seven sibyls, or but seven signs in the zodiack circle of heaven.

That verse in Virgil, translated out of Homer,* *O térque quatérque beati,* (that is, as men will have it, seven times happy,) hath much advanced this number in critical apprehensions. Yet is not this construction so indubitably to be received, as not at all to be questioned: for, though Rhodiginus, Beroaldus, and others, from the authority of Macrobius, so interpret it, yet Servius, his ancient commentator, conceives no more thereby than a finite number for indefinite, and that no more is implied than often happy. Strabo, the ancientest of them all, conceives no more, by this in Homer, than a full and excessive expression; whereas, in common phrase and received language, he should have termed them thrice happy, herein, exceeding that number, he called them four times happy, that is, more than thrice. And this he illustrates by the like expression of Homer, in the speech of Circe, who, to express the dread and terror of the ocean, sticks not unto the common form of speech in the strict account of its reciprocations, but largely speaking, saith, it ebbs and flows no less than thrice a day, *terque die revomit fluctus, iterúmque resorbet.* And so when 't is said by Horace, *felices ter et amplius,* the exposition is sufficient, if we conceive no more than the letter fairly beareth, that is, four times, or indefinitely more than thrice.

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* Τρὶς μάκαρες Δαναοὶ καὶ τετράκις.

[8] *forty.*] Discernable by a good telescope.—*Wr.*

[9] *seven circles,*] The 2 pole circles are in effect but as one, to this intention: likewise the 2 tropicks: let the æquator bee a thirde: the zodiack, a fourth: the horison a fifth; the colure of solstice (i.e. the meridian) a sixte: and the æquinoctial colure a seventhe.—*Wr.*

But the main considerations, which most set off this number, are observations drawn from the motions of the moon supposed to be measured by sevens; and the critical or decretory days[1] dependent on that number. As for the motion of the moon, though we grant it to be measured by sevens, yet will not this advance the same before its fellow numbers; for hereby the motion of other stars are not measured, the fixed stars by many thousand years, the sun by 365 days, the superior planets by more, the inferior by somewhat less. And if we consider the revolution of the first moveable, and the daily motion from east to west, common unto all the orbs, we shall find it measured by another number, for being performed in four and twenty hours, it is made up of four times six: and this is the measure and standard of other parts of time, of months, of years, olympiads, lustres, indictions of cycles, jubilees, &c.

Again, months are not only lunary, and measured by the moon, but also solary, and determined by the motion of the sun; that is the space wherein the sun doth pass thirty degrees of the ecliptick. By this month Hippocrates[*] computed the time of the infant's gestation in the womb; for nine times thirty, that is, 270 days, or complete nine months, make up forty weeks, the common compute of women. And this is to be understood, when he saith, two days make the fifteenth, and three the tenth part of the month. This was the month of the ancient Hebrews, before their departure out of Egypt:[2] and hereby the compute will fall out right, and the account concur, when in one place it is said, the waters of the flood prevailed an hundred and fifty days, and in another it is delivered, that they prevailed from the seventeenth day of the second month, unto the seventeenth day of the seventh. As for hebdomadal periods or weeks, although in regard of their sabbaths they were observed by the Hebrews, yet it is not apparent the ancient Greeks or Romans used any; but had another division of their months into ides, nones, and calends.

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[1] *decretory days,*] Dayes of 24 houres are properly the measure to which wee reduce months and yeares. The rest are not reduced to dayes but years: saving, that in the compute of the æquinoctial procession caused by the Julian excess, wee accompt the thirty-third bissextile daye supernumerary, and to bee rejected. Likewise in the decennovall cycles. The true cycle of the moon is 6939 dayes, 16 houres, $\frac{595}{1080}$ moments. The Dionysian Paschal cycle of 19 years, cald the golden number, is 6939 dayes, 18 hours: the difference is 1 hour, and 485 moments, which in 16 cycles, or every 304 yeares makes almost a day of the moones anticipation. Of these dayes, since the Nicene council, we must accompt, noe less then 4; and of the 5th a 3rd parte: by which the vernall full moone, cald the *Terminus Paschalis* does now anticipate in the Julian kalender. And this is that which the great Scaliger cals, *πϱοήγησιν σηληνιακήν.—Wr.*

Moreover, months, howsoever taken, are not exactly divisible into septenaries or weeks, which fully contain seven days; whereof four times do make completely twenty-eight. For, beside the usual or calendary month, there are but four considerable:[3] the month of peragration, of apparition, of consecution, and the medical or decretorial month; whereof some come short, others exceed this account. A month of peragration is the time of the moon's revolution from any part of the zodiack unto the same again, and this containeth but twenty-seven days, and about eight hours; which cometh short to complete the septenary account. The month of consecution, or as some will term it, of progression, is the space between one conjunction of the moon with the sun unto another: and this containeth twenty-nine days and an half; for the moon returning unto the same point wherein it was kindled by the sun, and not finding it there again, (for in the meantime, by its proper motion it hath passed through two

[*] *De Octomestri Partu.*

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[2] *Egypt.*] For they used the Ægyptian yeare of months, cald *annus canicalaris*, from the sun's revolution to the rising of the dogg-star.—*Wr.*

[3] *considerable.*] Considerable lunar months.—*Wr.*

signs,[4]) it followeth after, and attains the sun in the space of two days and four hours more, which added unto the account of peragration, make twenty-nine days and an half; so that this month exceedeth the latitude of septenaries, and the fourth part comprehendeth more than seven days. A month of apparition is the space wherein the moon appeareth, (deducting three days wherein it commonly disappeareth, and, being in combustion with the sun, is presumed of less activity,) and this containeth but twenty-six days and twelve hours. The medical month not much exceedeth this, consisting of twenty-six days and twenty-two hours, and is made up out of all the other months. For if, out of twenty-nine and an half, the month of consecution, we deduct three days of disappearance, there will remain the month of apparition twenty-six days and twelve hours: whereto if we add twenty-seven days and eight hours, the month of paragration, there will arise fifty-three days and ten hours, which divided by two, makes twenty-six days and twenty-two hours; called by physicians the medical month; introduced by Galen against Archigenes for the better compute of decretory or critical days.

As for the critical days (such I mean wherein upon a decertation between the disease and nature, there ensueth a sensible alteration, either to life or death,) the reasons thereof are rather deduced from astrology than arithmetic: for, accounting from the beginning of the disease, and reckoning on unto the seventh day, the moon will be in a tetragonal or quadrate aspect,[5] that is, four signs removed from that wherein the disease began; in the fourteenth day it will be in an opposite aspect; and at the end of the third septenary, tetragonal again; as will most graphically appear in the figures of astrologers, especially Lucas Gauricus, *De diebus decretoriis.*

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[4] *signs.*] This was a mistake in the learned author; for the moon goes but one signe in 2 dayes and a half. And how could the sun get through a whole signe in 27 days 8 hours?—*Wr.*

[5] *aspect.*] Aspect is a certaine distance of the planets wherein they are supposed to hinder or promote the effects which they usually produce in the signes, and in the bodily parts subject to them; according to which acception, conjunction cannot bee properly cald an aspect, though of all other postures in heaven to us it bee the strongest, bycause the planets, however distant in altitude immensely, yet conveye their force conjoyntlye with greater power. Of other aspects, some are cald happye, as the Trigon: first, bycause when planets are 4 signes distant, they are in signs of like nature, agreeinge in the same active and passive qualityes. Next, Sextile, which is of signes agreeing in one qualitye, and disagreeing in another. But quadrate and opposite are in signes of contrarye qualityes, and by their jarringe beames infest each other, and are therefore cald, (not without great reason in nature) malefic. —*Wr.*

Again, (beside that, computing by the medical month, the first hebdomade or septenary consists of six days, seventeen hours and an half, the second happeneth in thirteen days and eleven hours, and the third but in the twentieth natural day,)—what Galen first, and Abenezra since observed, in his tract of *Critical Days,* in regard of eccentricity and the epicycle or lesser orb wherein it moveth,—the motion of the moon is various and unequal, whereby the critical account must also vary. For though its middle motion be equal, and of thirteen degrees, yet in the other it moveth sometimes fifteen, sometimes less than twelve. For, moving in the upper part of its orb, it performeth its motion more slowly than in the lower; insomuch that, being at the height, it arriveth at the tetragonal and opposite signs sooner, and the critical day will be in six and thirteen; and being at the lowest, the critical account will be out of the latitude of seven, nor happen before the eighth or ninth day. Which are considerations not to be neglected in the compute of decretory days, and manifestly declare that other numbers must have a respect herein as well as seven and fourteen.

Lastly, some things to this intent are deduced from Holy Scripture; thus is the year of jubilee introduced to magnify this number, as being a year made out of seven times seven; wherein notwithstanding there may be a misapprehension; for this ariseth not from seven times seven, that is, forty-nine, but was observed the fiftieth year, as is expressed, "And you shall hallow the fiftieth year, a jubilee shall that fiftieth year be unto you." Answerable whereto is the exposition of the Jews themselves, as is delivered by Ben-Maimon; that is, the year of jubilee cometh not into the account of the years of seven, but the forty-ninth is the release, and the fiftieth the year of jubilee. Thus is it also esteemed no small advancement unto this number, that the genealogy of our Saviour is summed up by fourteen, that is, this number doubled, according as is expressed, Matt. i. So all the generations, from Abraham to David, are fourteen generations; and from

David unto the carrying away into Babylon, are fourteen generations; and from the carrying away into Babylon unto Christ, are fourteen generations. Which nevertheless must not be strictly understood as numeral relations require: for from David unto Jeconiah are accounted by Matthew but fourteen generations; whereas according to the exact account in the History of Kings, there were at least seventeen; and three in this account, that is, Ahazias, Joas, and Amazias, are left out. For so it is delivered by the evangelist,—"And Joram begat Ozias:" whereas in the regal genealogy there are three successions between; for Ozias or Uzziah was the son of Amazias, Amazias of Joas, Joas of Azariah, and Azariah of Joram; so that in strict account, Joram was the *abavus* or grandfather twice removed, and not the father of Ozias. And these two omitted descents made a very considerable measure of time in the royal chronology of Judah; for though Azariah reigned but one year, yet Joas reigned forty, and Amazias no less than nine and twenty. However therefore these were delivered by the evangelist, and carry (no doubt) an incontrolable conformity unto the intention of his delivery;[6] yet are they not appliable unto precise numerality, nor strictly to be drawn unto the rigid test of numbers.

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[6] *However, therefore, &c.*] Whether this omission originated with the Evangelist, or existed in the Jewish registers, from which he copied, must ever remain the subject of conjecture; as well as the probable motive of the omission, in either case. That such publicly recognised tables of descent existed, even to the time of Jesus Christ, we know from Josephus, *De Vita Sua*, p. 998, D.; and that Matthew would use them, cannot be deemed unlikely. The most probable ground for supposing the omission of these three kings in the public tables, is the curse denounced, on account of Ahab's awful idolatry, against his family (into which Joram married,) even to the third or fourth generation. If however it be thought improbable that such hiatus existed in the public genealogies, it must then be attributed to the Evangelist himself. Nor will this perhaps be deemed an inadmissible hypothesis, if we fully consider the circumstances. The sole object which he had in view in giving such a genealogy, was to prove that Jesus Christ, whom he was about to proclaim to the Jews as their Messiah, was indeed descended from the stock of David, answering—in this important respect—the prophetic description of him; a proof which the omission of several names would in no degree affect. Now, as Matthew was addressing Jews, it is very likely that he would resort to a method usually adopted among them, (probably for the facility of recollection which it afforded;) viz. that of dividing the genealogy into classes, if possible of *equal extent*. The threefold state of the Jews, *first*, under patriarchs, prophets, and judges, *then* under kings, and *lastly* under princes and priests, rendered such a classification additionally proper. The reign of David, and the Babylonish captivity, presented the most obvious points of division: but when thus divided, the classes were of *unequal extent;* the second

Lastly, though many things have been delivered by authors concerning number, and they transferred unto the advantage of their nature, yet are they ofttimes otherwise to be understood than as they are vulgarly received in active and casual considerations; they being many times delivered hieroglyphically, metaphorically, illustratively, and not with reference unto action or causality. True it is, that God made all things in number, weight, and measure, yet nothing by them or through the efficacy of either. Indeed our days, actions, and motions being measured by time, (which is but motion measured,) whatever is observable in any falls under the account of some number; which notwithstanding cannot be denominated the cause of those events. So do we unjustly assign the power of action even unto time itself, nor do they speak properly who say that time consumeth all things; for time is not effective, nor are bodies destroyed by it, but from the action and passion of their elements in it; whose account it only affordeth, and measuring out their motion informs us in the periods and terms of their duration, rather than effecteth or physically produceth the same.

A second consideration, which promoteth this opinion, are confirmations drawn from writers who have made observations, or set down favourable reasons for this climacterical year; so have Henricus Ranzovius,* Baptista Codronchus,† and Levinus Lemnius‡ much confirmed the same; but above all, that memorable letter of Augustus sent unto his nephew Caius, wherein he encourageth him to celebrate his nativity, for he had now escaped sixty-three, the great climacterical and dangerous year unto man. Which notwithstanding, rightly perpended, it can be no singularity to question it, nor any new paradox to deny it.

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* *De Annis Climactericis.*

† *De Occultis Naturæ Miraculis.*

‡ *Bel.* lib. v.

containing too many names for the narrator's purpose. In order to make it equal to the others, he may therefore be supposed to have adopted the direct expedient of omitting the three names in question. Of which practice he had several examples, to justify him, in the Jewish Scriptures, particularly in Ezra, vii, 2; where six generations are omitted at once. Nor does the literal incorrectness of the phrase "Joram begat Ozias," afford a valid objection: this term being applied not only to immediate, but to more remote, descendants. See Jer. xxxix.

For first, it is implicitly, and upon consequence denied by Aristotle in his Politicks, in that discourse against Plato, who measured the vicissitude and mutation of states, by a periodical fatality of number. Ptloemy, that famous mathematician, plainly saith, he will not deliver his doctrines by parts and numbers, which are ineffectual, and have not the nature of causes. Now by these numbers, saith Rhodiginus and Mirandula, he implieth climacterical years, that is, septenaries and novenaries set down by the bare observation of numbers. Censorinus, an author of great authority and sufficient antiquity, speaks yet more amply in his book, *De die Natali*, wherein, expressly treating of climacterical days, he thus delivereth himself:—"Some maintain that seven times seven, that is forty-nine, is most dangerous of any other, and this is the most general opinion: others unto seven times seven add nine times nine, that is, the year of eighty-one, both which, consisting of square and quadrate numbers, were thought by Plato and others to be of great consideration: as for this year of sixty-three, or seven times nine, though some esteem it of most danger, yet do I conceive it less dangerous than the other; for though it containeth both numbers above named, that is, seven and nine, yet neither of them square or quadrate; and as it is different from them both, so is it not potent in either." Nor is this year remarkable in the death of many famous men. I find indeed, that Aristotle died this year; but he, by the vigour of his mind, a long time sustained a natural infirmity of stomach; so that it was a greater wonder he attained unto sixty-three, than that he lived no longer. The psalm of Moses hath mentioned a year of danger differing from all these; and that is, ten times seven or seventy; for so it is said, the days of man are threescore and ten.[7] And the very same is affirmed by Solon, as Herodotus relates in a speech of his unto Crœsus, *Ego, annis septuaginta humanæ vitæ modum definio:* and surely that year must be of greatest danger which is the period of all the rest; and fewest safely pass through that which is set as a bound for few or none to pass. And therefore, the consent of elder times settling their conceits upon climacters, not only differing from this of ours, but one another, though several nations and ages do fancy unto themselves different years of danger, yet every one expects the same event, and constant verity in each.

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[7] *The psalm of Moses, &c.*] Psalm xc.

Again, though Varro divided the days of man into five portions, Hippocrates into seven,[8] and Solon into ten, yet probably their divisions were to be received with latitude, and their considerations not strictly to be confined unto their last unities. So when Varro extendeth *Pueritia* unto fifteen, *Adolescentia* unto thirty, *Juventus* unto thirty-five, there is a latitude between the terms or periods of compute, and the verity holds good in the accidents of any years between them. So when Hippocrates divideth our life into seven degrees or stages, and maketh the end of the first seven, of the second fourteen, of the third twenty-eight, of the fourth thirty-five, of the fifth forty-seven, of the sixth fifty-six, and of the seventh, the last year, whenever it happeneth; herein we may observe, he maketh not his divisions precisely by seven and nine, and omits the great climacterical: beside there is between every one at least the latitude of seven years, in which space or interval, that is either in the third or fourth year, whatever falleth out is equally verified of the whole degree, as though it had happened in the seventh. Solon divided it into ten septenaries, because in every one thereof, a man received some sensible mutation; in the first is dedentition or falling of teeth, in the second pubescence, in the third the beard groweth, in the fourth strength prevails, in the fifth maturity for issue, in the sixth moderation of appetite, in the seventh prudence, &c, Now herein there is a tolerable latitude, and though the division proceed by seven, yet is not the total verity to be restrained unto the last year, nor constantly to be expected the beard should be complete at twenty-one, or wisdom acquired just in forty-nine; and thus also, though seven times nine contain one of those septenaries, and doth also happen in our declining years, yet might the events thereof be imputed unto the whole septenary, and be more reasonably entertained with some latitude, than strictly reduced unto the last number, or all the accidents from fifty-six imputed unto sixty-three.

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[8] *Hippocrates . into seven.*] Proclus also divided them into seven ages, each supposed to be under distinct planetary influence. The first four years he called the age of *infancy*; the second *childhood*, to 14; third, *adolescence* or *youthhood*, to 22; fourth, *young manhood*, to 42; fifth, *mature manhood*, to 56; sixth, *old age*, to 68; seventh, *decrepit age*, to 88. All beyond that age he considers to be a second infancy.

Thirdly, although this opinion may seem confirmed by observation, and men may say it hath been so observed, yet we speak also upon experience, and do believe that men from observation will collect no satisfaction. That other years may be taken against it, especially if they have the advantage to proceed it, as sixty against sixty-three, and sixty-three against sixty-six. For fewer attain to the latter than the former, and so surely in the first septenary do most die, and probably also in the very first year, for all that ever lived were in the account of that year, beside the infirmities that attend it are so many, and the body that receives them so tender and inconfirmed, we scarce count any alive that is not past it.

Fabritius Paduanius,* discoursing of the great climacterical, attempts a numeration of eminent men who died in that year, but in so small a number as not sufficient to make a considerable induction. He mentioneth but four, Diogenes Cynicus, Dionysius Heracleoticus, Xenocrates Platonicus, and Plato. As for Dionysius, as Censorinus witnesseth, he famished himself in the eighty-second year of his life; Xenocrates, by the testimony of Laertius, fell into a cauldron, and died the same year, and Diogenes the cynick, by the same testimony, lived almost unto ninety. The date of Plato's death is not exactly agreed on, but all dissent from this which he determineth. Neanthes, in Laertius, extendeth his days unto eighty-four, Suidas unto eighty-two, but Hermippus defineth his death in eighty-one; and this account seemeth most exact, for if, as he delivereth, Plato was born in the eighty-eighth olympiad, and died in the first year of the 108th, the account will not surpass the year of eighty-one, and so in his death he verified the opinion of his life, and of the life of man, whose period, as Censorinus recordeth, he placeth in the quadrate of nine, or nine times nine, that is, eighty-one;

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* *De catena temporis.*

and therefore, as Seneca delivereth, the magicians, at Athens, did sacrifice unto him, as declaring in his death somewhat above humanity, because he died in the day of his nativity, and without deduction justly accomplished the year of eighty-one. Bodine,* I confess, delivers a larger list of men that died in this year; *Moriuntur innumerabiles anno sexagesimo tertio, Aristotles, Chrysippus, Bocatius, Bernardus, Erasmus, Lutherus, Melancthon, Sylvius, Alexander, Jacobus Sturmius, Nicolaus Cusanus, Thomas Linacer, eodem anno Cicero cæsus est.* Wherein, beside that it were not difficult to make a larger catalogue of memorable persons that died in other years, we cannot but doubt the verity of his induction. As for Sylvius and Alexander, which of that name he meaneth I know not, but for Chrysippus, by the testimony of Laertius, he died in the 73rd year, Bocatius in the 62nd, Linacer the 64th, and Erasmus exceeded 70, as Paulus Jovius hath delivered in his elegy of learned men; and as for Cicero, as Plutarch in his life affirmeth, he was slain in the year of 64, and therefore sure the question is hard set, and we have no easy[9] reason to doubt, when great and entire authors shall introduce injustifiable examples, and authorize their assertions by what is not authentical.

Fourthly, they which proceed upon strict numerations, and will by such regular and determined ways measure out the lives of men, and periodically define the alterations of their tempers, conceive a regularity in mutations, with an equality in constitutions, and forget that variety which physicians therein discover; for seeing we affirm that women do naturally grow old before men, that the cholerick fall short in longevity of the sanguine, that there is *senium ante senectum*, and many grow old before they arrive at age, we cannot affix unto them all one common point of danger, but should rather assign a respective fatality unto each: which is concordant unto the doctrine of the numerist, and such as maintain this opinion, for they affirm that one number respecteth men, another women; as Bodin, explaining that of Seneca, *Sep-*

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* *Method. His.*

[9] *easy.*] Small.—*Wr.*

timus quisque annus ætati signum imprimit, subjoins, *hoc de maribus dictum oportuit, hoc primum intueri licet, perfectum numerum, id est, sextum fœminas, septenarium mares immutare.*

Fifthly, since we esteem this opinion to have some ground in nature, and that nine times seven revolutions of the sun imprint a dangerous character on such as arrive unto it, it will leave some doubt behind, in what subjection hereunto were the lives of our forefathers presently after the flood, and more especially before it, who, attaining unto 8 or 900 years, had not their climacters computable by digits, or as we do account them, for the great climacterical was past unto them before they begat children, or gave any testimony of their virility, for we read not that any begat children before the age of sixty-five.[1] And this may also afford a hint to enquire what are the climacters of other animated creatures, whereof the life of some attains not so far as this of ours, and that of others extends a considerable space beyond it.

Lastly, the imperfect accounts that men have kept of time, and the difference thereof, both in the same and diverse commonwealths, will much distract the certainty of this assertion. For though there were a fatality in this year, yet divers were, and others might be, out in their account, aberring several ways from the true and just compute; and calling that one year which perhaps might be another.

For first, they might be out in the commencement or beginning of their account; for every man is many months elder than he computeth. For although we begin the same from our nativity, and conceive that no arbitrary, but natural term of compute, yet for the duration of life or existence, we are liable in the womb unto the usual distinctions of time, and are not to be exempted from the account of age and life, where we are subject to diseases, and often suffer death. And therefore Pythagoras, Hippocrates, Diocles, Avicenna, and others, have set upon us numeral relations and temporal considerations in the womb; not only affirming the birth of the seventh month to be vital, that of the eighth mortal, but the progression thereto to be measured by rule, and to hold a proportion unto motion and formation. As what receiveth motion in the seventh, to be perfected in triplicities; that is, the time of conformation unto motion is double, and that from motion unto the birth, treble; so what is formed the thirty-fifth day, is moved the seventieth, and born the two hundred and tenth day. And therefore if any invisible causality there be, that after so many years doth evidence itself at sixty-three, it will be questionable whether its activity only set out at our nativity, and begin not rather in the womb, wherein we place the like considerations. Which doth not only entangle this assertion, but hath already embroiled the endeavours of astrology in the erection of schemes, and the judgment of death or diseases; for being not incontrolably determined at what time to begin, whether at conception, animation, or exclusion, (it being indifferent unto the influence of heaven to begin at either,) they have invented another way, that is, to begin *ab hora quæstionis*, as Haly, Messahallach, Ganivetus, and Guido Bonatus, have delivered.

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[1] *not that any, &c.*] This is true of all the patriarchs before the flood, whose long life needed noe hastening of progenye; the delay whereof might be a concurrent cause of their longævitye. For doubtless such as was their longævitye, such in proportion wee must think their strengthe, and such the degrees by which they grew unto itt. To the forbearance from mariage we may add their detestation of polygamye, to which doubtless our Saviour gives that testimony.—Matth. xx, 8. From the beginninge itt was not soe, that is, no one of the patriarchs used polygamy till Lamech, the 9th from Adam, almost 900 years after the creation, thereby justly reproaching the incontinency of after ages, not only for their præcipitation, but the lustfull desire of change without sufficient cause, viz. the adultery of the wife, whose life being taking off by the law, lefte the man free to marrye againe. That therefore we read not of the antidiluvian fathers begetting children before 65 is true of all; for Lamech begat not Noah till his 182nd yeare. But after the flood, to repeople the world, all the patriarchs till Terah begat children before 35, which is but halfe of the former time of 65 yeares.—*Wr.*

Again, in regard of the measure of time by months and years, there will be no small difficulty; and if we shall strictly consider it, many have been and still may be, mistaken. For neither the motion of the moon, whereby months are computed, nor of the sun, whereby years are accounted, consisteth of whole numbers, but admits of fractions and broken parts, as we have already declared concerning the moon. That of the sun consisteth of three hundred and sixty-five days, and almost six hours, that is, wanting eleven minutes; which six hours, omitted, or not taken notice of, will, in process of time, largely deprave the compute; and this is the occasion of the bissextile or leap-year, which was not observed in all times, nor punctually in all commonwealths; so that in sixty-three years there may be lost almost eighteen days, omitting the intercalation of one day every fourth year, allowed for this quadrant, or six hours supernumerary. And though the same were observed, yet to speak strictly, a man may be somewhat out in the account of his age at sixty-three; for although every fourth year we insert one day, and so fetch up the quadrant, yet those eleven minutes whereby the year comes short of perfect six hours will, in the circuit of those years, arise unto certain hours, and in a larger progression of time unto certain days. Whereof at present we find experience in the calendar we observe. For the Julian year of three hundred and sixty-five days being eleven minutes larger than the annual revolution of the sun, there will arise an anticipation in the equinoxes; and as Junctinus computeth,*[2] in every 136th year they will anticipate almost one day. And therefore those ancient men and Nestors of old times, which yearly observed their nativities, might be mistaken in the day; nor is that to be construed without a grain of salt, which is

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* *Comment. in Sphæram Job. de Sacro Bosco.*

[2] *as Junctinus computeth.*] See a short but an exact discussion of this in *Calce Libri*, and Junctinus his error.—*Wr.* The following is the "discussion" at the end of the dean's copy, but it seems more appropriate to place it here.—*Ed.*

Quantitas anni	Maxima....	365d.	5h.	56′	57″	nunquam assurgit ad 57′.
	Minima	365	5	44	38	nunquam deficit ad 44′.
	Media, seu communis	365	5	49	0	alii addunt 15′ 46‴.

Cum igitur annus Julianus supponatur, superaddere quotannis 10′ 48″, necesse est, ut quolibet bissexto, æquinoctia retrocedant in diebus Julianis 43′ et 12″ adeo ut in 134 annis, retrocedant 24h. 6′ 52″ et in 1644 (post Christum) annis 12d. 7h. 52′ 22″. Ita a correcto kalendario, (44 annis ante C. N.) ad annum presentem, 1652, retrocesserunt 12d. 17h. 13′ 22″. Supine igitur numeravit author è Junctino: in annis 136, retrocedere æquinoctia, diem integrum fere, cum præter integrum diem, colligantur totidem annis 1h. 26′ 24″. Alphonsini dicunt in 400 annis æquinoctia retrocedere 3 dies fere, quod proxime accedit ad priorem calculum, si num addas (ad annos Christi elapsos sc. 1652,) annos a correcto kalendario ad Christum natum, sc. 44, fiunt anni 1696: in quibus labemus quater 3 dies, et quæ excurrunt 96 dierum minuta: sc. 17′ et 26″, Per utrumque calculum, si 33us quilibet bissextus abjiciatur, manebunt æquinoctia in sedibus suis in futurum. Sed 12 dies qui ex eo excessu creverunt, optime et sine tumultu eximentur e mensibus dierum (31) duplus annis sequentibus; sc. ex Martio, Maio, Julio, Augusto, Octobri et Decembri; et sic duæ anni medictates facient paria fere. Nam communibus annis currunt ab æquinoctio verno ad autumnale 186d. 8h. 8′ ab autumnali ad vernum, 178d. 21h. 47′. —*Wr.*

delivered by Moses:[3] "At the end of four hundred years, even the self-same day, all the host of Israel went out of the land of Egypt." For in that space of time the equinoxes had anticipated, and the eleven minutes had amounted far above a day. And this compute rightly considered will fall fouler on them who cast up the lives of kingdoms, and sum up their duration by particular numbers; as Plato first began, and some have endeavoured since by perfect and spherical numbers, by the square and cube of seven, and nine, and twelve, the great number of Plato. Wherein indeed Bodine * hath attempted a particular enumeration; but (beside the mistakes committable in the solary compute of years,) the difference of chronology disturbs the satisfaction and quiet of his computes; some adding, others detracting, and few punctually according in any one year; whereby indeed such accounts should be made up, for the variation in an unit destroys the total illation.

Thirdly, the compute may be unjust, not only in a strict acception, of few days or hours, but in the latitude also of some years; and this may happen from the different compute of years in divers nations, and even such as did maintain the most probable way of account: their year being not only different from one another, but the civil and common account disagreeing much from the natural year, whereon the consideration is founded. Thus from the testimony of Herodotus, Censorinus, and others, the Greeks observed the lunary year, that is, twelve revolutions of the moon, 354 days; but the Egyptians, and many others, adhered unto the solary account, that is, 365 days, that is, eleven days longer. Now hereby the account of the one would very much exceed the other: a man in the one would account himself sixty-three, when one in the other would think himself but sixty-

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* *Matt. Histor.*

[3] *which is delivered by Moses.*] Moses accounted by the old Ægyptian yeare, wherein he was most skilfull: and the Ægyptian yeare was a yeare of days without any intercalation. Soe that the head of the yeare was vagrant, but the accompt of dayes most exact, insomuch that the best astronomers to this day use that yeare in their accompts: by which they measure the Julian yeares. Soe then, his mention of the Julian excesse of 11 minutes yearlye is ἀπροσδιόνυσον. For Moses did not use the Julian yeare, which had its original from the Ægyptian yeares 1454 yeares after—*Wr.*

one; and so, although their nativities were under the same hour, yet did they at different years believe the verity of that which both esteemed affixed and certain unto one. The like mistake there is in a tradition of our days; men conceiving a peculiar danger in the beginning days of May, set out as a fatal period unto consumptions and chronical diseases; wherein, notwithstanding, we compute by calendars not only different from our ancestors but one another, the compute of the one anticipating that of the other; so that while we are in April, others begin May, and the danger is past unto one, while it beginneth with another.

Fourthly, men were not only out in the number of some days, the latitude of a few years, but might be wide by whole olympiads and divers decads of years. For as Censorinus relateth, the ancient Arcadians observed a year of three months, the Carians of six, the Iberians of four; and as Diodorus and Xenophon *de Æquivocis* allege, the ancient Egyptians have used a year of three, two, and one month: so that the climacterical was not only different unto those nations, but unreasonably distant from ours; for sixty-three will pass in their account, before they arrive so high as ten in ours.

Nor, if we survey the account of Rome itself, may we doubt they were mistaken, and if they feared climacterical years, might err in their numeration. For the civil year, whereof the people took notice, did sometimes come short, and sometimes exceed the natural. For according to Varro, Suetonius, and Censorinus, their year consisted first of ten months; which comprehend but 304 days, that is, sixty-one less than ours containeth; after by Numa or Tarquin, from a superstitious conceit of imparity, were added fifty-one days, which made 355, one day more than twelve revolutions of the moon. And thus a long time it continued, the civil compute exceeding the natural; the correction whereof, and the due ordering of the leap-year was referred unto the Pontifices; who either upon favour or malice, that some might continue their offices a longer or shorter time, or from the magnitude of the year, that men might be advantaged, or endamaged in their contracts, by arbitrary intercalations, depraved the whole account. Of this abuse Cicero accused Verres, which at last proceeded so far, that when Julius Cæsar came unto that office, before the redress hereof he was fain to insert two intercalary months unto November and December, when he had already inserted twenty-three days unto February; so that the year consisted of 445 days; a quarter of a year longer than that we observed; and though at the last the year was reformed, yet in the mean time they might be out wherein they summed up climacterical observations.

Lastly, one way more there may be of mistake, and that not unusual among us, grounded upon a double compute of the year; the one beginning from the 25th of March, the other from the day of our birth, unto the same again, which is the natural account. Now hereupon many men frequently miscast their days; for in their age they deduce the account not from the day of their birth, but the year of our Lord, wherein they were born. So a man that was born in January, 1582, if he live to fall sick in the latter end of March, 1645, will sum up his age, and say I am now sixty three, and in my climacterical and dangerous year; for I was born in the year 1582, and now it is 1645, whereas indeed he wanteth many months of that year, considering the true and natural account unto his birth; and accounteth two months for a year: and though the length of time and accumulation of years do render the mistake insensible; yet is it all one, as if one born in January, 1644, should be accounted a year old the 25th of March, 1645.[4]

All which perpended, it may be easily perceived with what insecurity of truth we adhere unto this opinion; ascribing not only effects depending on the natural period of time, unto arbitary calculations, and such as vary at pleasure; but confirming our tenets by the uncertain account of others and ourselves, there being no positive or indisputable ground where to begin our compute. That if there were, men have been several ways mistaken; the best in some latitude, others in greater, according to the different compute of divers states, the short and irreconcileable years of some, the exceeding error in the natural frame of others, and the lapses and false deductions of ordinary accountants in most.

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[4] *shall be accounted a year old, &c.*] Whereas, if born on the first of January, 1644, he would be only 85 days old on the 25th of March, that being the first day of the year 1645: still more strange does it sound, to assert that on the 24th of March, 1645, he would be a year older than on the 25th March of the same year.

Which duly considered, together with a strict account and critical examen of reason, will also distract the witty determinations of astrology. That Saturn, the enemy of life, comes almost every seventh year, unto the quadrate or malevolent place; that as the moon about every seventh day arriveth unto a contrary sign, so Saturn, which remaineth about as many years as the moon doth days in one sign, and holdeth the same consideration in years as the moon in days, doth cause these periculous periods. Which together with other planets, and profection of the horoscope, unto the seventh house, or opposite signs every seventh year, oppresseth living natures, and causeth observable mutations in the state of sublunary things.

Further satisfaction may yet be had from the learned discourse of Salmasius * lately published, if any desire to be informed how different the present observations are from those of the ancients; how every one hath different climactericals; with many other observables, impugning the present opinion.[5]

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* *De Annis Climactericis.*

[5] *which duly, &c.*] The two concluding paragraphs were added in 2nd edition.

I subjoin several references here transcribed from a copy belonging to my late friend Rev. Jos. Jefferson; which may be useful to others, though I have not had opportunity to avail myself of them. See *Pluche* i, 266.—Vid. *J. F. Ringelbergii Lucubrationes de Annis Climactericis*, p. 548.—Concerning an "odd number," see *Stopford's Pagano-Papismus*, p. 262.—*Jeff.*

CHAPTER XIII.

Of the Canicular or Dog-days.

Whereof to speak distinctly.—Among the southern constellations, two there are which bear the name of the dog; the one in sixteen degrees of latitude, containing on the left thigh a star of the first magnitude, usually called Procyon or Anticanis, because say some it riseth before the other; which if truly understood, must be restrained unto those habitations, who have elevation of pole above thirty-two degrees. Mention thereof there is in Horace,* who seems to mistake or confound the one with the other; and after him in Galen, who is willing the remarkablest star of the other should be called by this name; because it is the first that ariseth in the constellation; which notwithstanding, to speak strictly, it is not; unless we except one of the third magnitude in the right paw, in his own and our elevation, and two more on his head in and beyond the degree of sixty. A second and more considerable one there is, and neighbour unto the other, in forty degrees of latitude, containing eighteen stars, whereof that in his mouth, of the first magnitude, the Greeks call Σείριος, the Latins *canis major*, and we emphatically the dog-star.

Now from the rising of this star, not cosmically, that is, with the sun, but heliacally, that is, its emersion from the rays of the sun, the ancients computed their canicular days; concerning which, there generally passeth an opinion, that during those days all medication or use of physick is to be declined, and the cure committed unto nature. And therefore as though there were any feriation[6] in nature or *justitiums*[7] imaginable in professions, whose subject is natural, and under no intermissive, but constant way of mutation, this season is commonly termed the physician's vacation, and stands so received by most men. Which conceit, however general, is not only erroneous but unnatural, and, subsisting upon foundations either false, uncertain, mistaken, or misapplied, deserves not of mankind that indubitable assent it findeth.[8]

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* *Jam Procyon fuerit et stella vesani Leonis.*

[6] *feriation.*] Vacations.

[7] *justitiums.*] Probably, *statute laws.*

For first, which seems to be the ground of this assertion, and not to be drawn into question, that is, the magnified quality of this star, conceived to cause or intend the heat of this season, whereby these days become more observable than the rest, we find that wiser antiquity was not of this opinion. For, seventeen hundred years ago it was a vulgar error rejected by Geminus, a learned mathematician, in his elements of astronomy, wherein he plainly affirmeth, that common opinion made that a cause, which was at first observed but as a sign; the rising and setting both of this star and others being observed by the ancients, to denote and testify certain points of mutation, rather than conceived to induce or effect the same. For our fore-fathers, saith he, observing the course of the sun, and marking certain mutations to happen in his progress through particular parts of the zodiack, they registered and set them down in their parapegmes, or astronomical canons; and being not able to design these times by days, months, or years, (the compute thereof, and the beginning of the year being different, according unto different nations,) they thought best to settle a general account unto all, and to determine these alterations by some known and invariable signs; and such did they conceive the rising and setting of the fixed stars; not ascribing thereto any part of causality, but notice and signification. And thus much seems implied in that expression of Homer, when speaking of the dog-star he concludeth, κακόν δε τε σῆμα τέτυκται, *Malum*

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[8] *there generally passeth, &c.*] In the present day, it is difficult to believe that so absurd a position could have obtained general credence, even among the ignorant, much more that it could have exercised any influence on medical science. Yet that Sir Thomas knew it to have that influence in his day, is evident not only from the present, but especially from the concluding paragraph of this chapter. Nor is his estimate of the evil resulting from such a "vulgar error in practice" less forcibly proved by the pains, ingenuity, and labour, with which he attacks it, and from the great length to which his very judicious investigation of the subject is here carried.

autem signum est; the same, as Petavius observeth, is implied in the word of Ptolemy, and the ancients, περὶ ἐπισημασιῶν, that is, of the signification of stars. The term of Scripture also favours it; as that of Isaiah, *Nolite timere à signis cœli* and that in Genesis, *ut sint in signa et tempora,* let there be lights in the firmament, and let them be for signs and for seasons.

The primitive and leading magnifiers of this star were the Egyptians, the great admirers of dogs in earth and heaven; wherein they worshipped Anubis or Mercurius, the scribe of Saturn, and counsellor of Osyris, the great inventor of their religious rites, and promoter of good unto Egypt, who was therefore translated into this star; by the Egyptians called Sothis, and Siris by the Ethiopians, from whence that Sirius or the dog-star had its name is by some conjectured.[9]

And this they looked upon, not with reference unto heat, but celestial influence upon the faculties of man, in order to religion and all sagacious invention, and from hence derived the abundance and great fertility of Egypt, the overflow of Nilus happening about the ascent hereof; and therefore, in hieroglyphical monuments, Anubis is described with a dog's head, with a crocodile between his legs, with a sphere in his hand, with two stars, and a water-pot standing by him, implying thereby the rising and setting of the dog-star, and the inundation of the river Nilus.

But if all were silent, Galen hath explained this point unto the life; who expounding the reason why Hippocrates declared the affections of the year by the rising and setting of stars; it was, saith he, because he would proceed on signs and principles best known unto all nations; and upon his words in the first of the epidemicks, *In Thaso autummo circa equinoctium et sub virgilias pluviæ erant multæ,* he thus enlargeth. If, saith he, the same compute of times and months were observed by all nations, Hippocrates had never made any mention either of *arcturus, pleiades,* or the dog-star, but would have plainly said, in Macedonia, in the month

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[9] *The primitive, &c.*] This paragraph was added in 2nd edition; the next paragraph was added in the 3rd edition.

Dion,[1] thus or thus was the air disposed. But for as much as the month *Dion* is only known unto the Macedonians, but obscure unto the Athenians and other nations, he found more general distinctions of time, and instead of naming months, would usually say, at the equinox, the rising of the *pleiades*, or the dog-star; and by this way did the ancients divide the seasons of the year, the autumn, winter, spring, and summer. By the rising of the *pleiades* denoting the beginning of summer, and by that of the dog-star the declination thereof. By this way Aristotle, through all his books of animals, distinguisheth their times of generation, latitancy, migration, sanity, and venation; and this were an allowable way of compute, and still to be retained, were the site of the stars as inalterable, and their ascents as invariable, as primitive astronomy conceived them; and therefore though Aristotle frequently mentioneth this star, and particularly affirmeth that fishes in the Bosphorus are best catched from the arise of the dog-star, we must not conceive the same a mere effect thereof; nor though Scaliger from hence be willing to infer the efficacy of this star, are we induced hereto, except (because the same philosopher affirmeth, that tunny is fat about the rising of the *pleiades*, and departs upon *arcturus*, or that most insects are latent from the setting of the seven stars,) except, I say, he give us also leave to infer that these particular effects and alterations proceed from those stars, which were indeed but designations of such quarters and portions of the year, wherein the same were observed. Now what Pliny affirmeth of the orix, that it seemeth to adore this star, and taketh notice thereof by voice and sternutation, until we be better assured of its verity, we shall not salve the sympathy.

Secondly, what slender opinion the ancients held of the efficacy of this star, is declarable from their compute; for as Geminus affirmeth, and Petavius, his learned commentator, proveth, they began their account from its heliacal emersion, and not its cosmical ascent. The cosmical ascension of a star we term that, when it ariseth together with the sun, or the same degree of the ecliptick wherein the sun abideth;

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[1] *Dion.*] Itt is Dius, not Dion—.*Wr.*

and that the heliacal, when a star which before for the vicinity of the sun, was not visible, being further removed, beginneth to appear. For the annual motion of the sun from west to east being far swifter than that of the fixed stars, he must of necessity leave them on the east while he hasteneth forward, and obscureth others to the west, and so the moon which performs its motion swifter than the sun, (as may be observed in their conjunctions and eclipses,) gets eastward out of his rays, and appears when the sun is set.[2] If therefore the dog-star had this effectual heat which is ascribed unto it, it would afford best evidence thereof, and the season would be most fervent, when it ariseth in the probablest place of its activity, that is, the cosmical ascent; for therein it ariseth with the sun, and is included in the same irradiation. But the time observed by the ancients was long after this ascent, and in the heliacal emersion, when it becomes at greatest distance from the sun, neither rising with it nor near it; and therefore had they conceived any more than a bare signality in this star, or ascribed the heat of the season thereunto, they would not have computed from its heliacal ascent, which was of inferior efficacy; nor imputed the vehemency of heat unto those points wherein it was more remiss, and where with less probability they might make out its action.

Thirdly, although we derive the authority of these days from observations of the ancients, yet are our computes very different, and such as confirm not each other. For whereas they observed it heliacally, we seem to observe it cosmically, for before it ariseth heliacally unto our latitude, the summer is even at an end. Again, we compute not only from different ascents, but also from diverse stars; they from the greater dog-star, we from the lesser;[3] they from Orion's, we from

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[2] *the moon. &c.*] This is obscurely sayde. Nor though the moon gets eastward of the sonne, i. e. to speak properly, appears on the east from the new to the full, yet from the full to the new shee appeares west of him, which is nothing else but that going throughe the twelve times for his once, she must of necessity seeme sometimes eastward of him, and sometimes west, according to the diurnal motion—*Wr.*

[3] *the lesser, &c.*] The observation of the dog-star's rising came from the Ægyptians at Alexandria, lying under 30 degrees, where when the sun comes to the tropicks in the [....] degree of Cancer, both the dog-stars rise with him together, begin to increase the heate, which afterwards the sun coming towards Leo doubles, soe that they esteeme not of that heate from the dog-star's rise alone, but from their conjoynt rising

Cephalus's dog; they from Sirius, we from Crocyon; for the beginning of the dog-days with us is set down the 19th of July, about which time the lesser dog-star ariseth with the sun, whereas the star of the greater dog ascendeth not until after that month. And this mistake will yet be larger, if the compute be made stricter, and as Dr. Bainbrigge,[*] late professor of astronomy in Oxford, hath set it down, who in the year 1629 computed, that in the horizon of Oxford, the dog-star arose not before the fifteenth day of August, when in our almanack accounts those days are almost ended. So that the common and received time not answering the true compute, it frustrates the observations of ourselves; and being also different from the calculations of the ancients, their observations confirm not ours, nor ours theirs, but rather confute each other.

Nor will the computes of the ancients be so authentic unto those who shall take notice how commonly they applied the celestial descriptions of other climes unto their own, wherein the learned Bainbrigius justly reprehendeth Manilius, who transferred the Egyptian descriptions unto the Roman account, confounding the observation of the Greek and Barbarick spheres.[4]

Fourthly, (which is the argument of Geminus,) were there any such effectual heat in this star, yet could it but weakly evidence the same in summer, it being about 40 degrees distance from the sun, and should rather manifest its warming power in the winter, when it remains conjoined with the sun in its hybernal conversion. For about the 29th of October, and in the 16th of Scorpius, and so again in January, the sun performs his revolution in the same parallel with the dog-star. Again, if we should impute the heat of this season unto the co-operation of any stars with the sun, it seems more favourable for our times to ascribe the same unto the constellation of Leo. Where besides that the sun is in his proper house, it is conjoined with many stars, whereof two of the first magnitude, and in the 8th of August is corporally conjoined with Basiliscus, a star of eminent name in astrology, and seated almost in the ecliptick.

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[*] *Bainb. Canicularis.*

with the sun in Leo. But the principall observation of the dog-star rising was from the course of their yeare, which they therefore cald Ἔτος ϰυνιϰὸν, as beginning always from the first cosmical rising of the dog-star.—*Wr.*

[4] *And this mistake, &c.*] The conclusion of this paragraph, with the next, were first added in 3rd edition.

Fifthly, if all were granted, that observation and reason were also for it, and were it an undeniable truth that an effectual fervour proceedeth from this star, yet would not the same determine the opinion now in question, it necessarily suffering such restrictions as to take off general illations. For first, in regard of different latitudes, unto some the canicular days are in the winter; as unto such as have no latitude, but live in a right sphere, that is, under the equinoctial line, for unto them it ariseth when the sun is about the tropick of Cancer, which season unto them is winter,[5] and the sun remotest from them. Nor hath the same position in the summer, that is, in the equinoctial points, any advantage from it, for in the one point the sun is at the meridian before the dog-star ariseth; in the other the star is at the meridian before the sun ascendeth.

Some latitudes have no canicular days at all; as namely all those which have more than seventy-three degrees of northern elevation; as the territory of Nova Zembla, part of Greenland, and Tartary, for unto that habitation the dog-star is invisible, and appeareth not above the horizon.

Unto such latitudes wherein it ariseth, it carrieth a various and very different respect: unto some it ascendeth when summer is over, whether we compute heliacally or cosmically; for, though unto Alexandria it ariseth in Cancer, yet it ariseth not unto Biarmia cosmically before it be in Virgo, and heliacally about the autumnal equinox. Even unto the latitude of fifty-two, the efficacy thereof is not much considerable, whether we consider its ascent, meridian altitude, or abode above the horizon. For it ariseth very late in the year, about the eighteenth of Leo, that is, the 31st of July. Of meridian altitude it hath but 23 degrees, so that it plays but obliquely upon us, and as the sun doth about the 23rd of January. And lastly, his abode above the horizon is not great; for in the eighteenth of Leo, the 31st of July, although they arise together, yet doth it set above five hours before the sun, that is, before two o'clock, after which time we are more sensible of heat than all the day before.

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[5] *winter.*] They have two winters, viz. when the sonne is in either tropick, in which respect yf there be any difference in the temper, itt is when the sonne enters the midst of ♑, and by his eccentricity is nearer to the earth there then when he is in Cancer.—*Wr.*

Secondly, in regard of the variation of the longitude of the stars, we are to consider (what the ancients observed not,) that the site of the fixed stars is alterable, and that since elder times they have suffered a large and considerable variation of their longitudes. The longitude of a star,[6] to speak plainly, is its distance from the first point of numeration toward the east; which first point unto the ancients was the vernal equinox. Now by reason of their motion from west to east, they have very much varied from this point. The first star of Aries, in the time of Meton, the Athenian, was placed in the very intersection, which is now elongated and removed eastward twenty-eight degrees; insomuch that now the sign of Aries possesseth the place of Taurus, and Taurus that of Gemini. Which variation of longitude must very much distract the opinion of the dog-star;[6] not only in our days, but in times before and after; for since the world began it hath arisen in Taurus, and if the world last, may have its ascent in Virgo; so that we must place the canicular days, that is, the hottest time of the year in the spring in the first age, and in the autumn in ages to come.

Thirdly, the stars have not only varied their longitudes, whereby their ascents have altered, but have also changed their declinations, whereby their rising at all, that is their appearing, hath varied. The declination of a star we call its distance from the equator.[7] Now though the poles of the world and the equator be immoveable, yet because the stars in their proper motions from west to east do move upon the poles of the ecliptick, distant twenty-three degrees and an half from the poles of the equator, and describe circles parallel not unto the equator, but the ecliptick; they must be, therefore, sometimes nearer, sometimes removed further from the equator. All stars that have their distance from the ecliptick northward not more than twenty-three degrees and an half (which is the greatest distance of the ecliptic from the equator) may in progression of time have declination southward, and move beyond the equator; but if any star hath just this distance of twenty-three and an half (as hath *Capella* on the back of *Ericthonius*) it may hereafter move under the equinoctial; and the same will happen respectively unto stars which have declination southward. And therefore many stars may be visible in our hemisphere which are not so at present; and many which are at present, shall take leave of our horizon, and appear unto southern habitations. And therefore the time may come that the dog-star may not be visible in our horizon, and the time hath been when it hath not shewed itself unto our neighbour latitudes. So that canicular days there have been none, nor shall be; yet certainly in all times some season of the year more notably hot than other.

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[6] *of the dog-star.*] Not only of the dogg-star, but of all the imaginary houses of the astrologers, and consequently all that heathenish structure of the fortitude, detriments, aspects, triciplicityes, and such ridiculous stuff, utterly dasht, and confounded, and condemned of late by all the learned astronomers: *Tycho, plurics;* Kepler, expresly in *Cometæ anni* 1618; and Longomontany *ubique.*—*Wr.*

[7] *equator.*] Equinoctial.

Lastly, we multiply causes in vain; and for the reason hereof we need not have recourse unto any star but the sun, and continuity of its action. For the sun ascending into the northern signs, begetteth first a temperate heat in the air; which by his approach unto the solstice he intendeth, and by continuation increaseth the same even upon declination. For running over[8] the same degrees again, that is, in *Leo*, which he hath done in *Taurus*, in July which he did in May; he augmenteth the heat in the latter which he began in the first; and easily intendeth the same by continuation which was well promoted before. So is it observed, that they which dwell between the tropicks and the equator have their second summer hotter and more maturative of fruits than the former.

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[8] *For running over.*] In those four signes, Taurus, Gemini, Cancer, Leo, they have a continual summer, hottest *in extremis.*—*Wr.*

So we observe in the day,[9] (which is a short year,[1]) the greatest heat about two in the afternoon, when the sun is past the meridian, (which is his diurnal solstice,) and the same is evident from the thermometer or observations of the weather-glass. So are the colds of the night sharper in the summer about two or three after midnight, and the frosts in winter stronger about those hours. So likewise in the year we observe the cold to augment, when the days begin to increase, though the sun be then ascensive and returning from the winter tropick. And therefore if we rest not in this reason for the heat in the declining part of summer, we must discover freezing stars that may resolve the latter colds of winter; which whoever desires to invent, let him study the stars of Andromeda, or the nearer constellation of Pegasus, which are about that time ascendant.

It cannot therefore seem strange, or savour of singularity, that we have examined this point, since the same hath been already denied by some; since the authority and observations of the ancients, rightly understood, do not confirm it; since our present computes are different from those of the ancients, whereon notwithstanding they depend; since there is reason against it, and if all were granted, yet must it be maintained with manifold restraints, far otherwise than is received. And lastly, since from plain and natural principles the doubt may be fairly salved, and not clapt up from petitionary foundations and principles unestablished.

But that which chiefly promoted the consideration of these days, and medically advanced the same, was the doctrine of Hippocrates, a physician of such repute that he received a testimony from a Christian that might have been given unto

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[9] *day.*] Every day is an emblem of the yeare; and therein the sun hath his declination, or distance from the meridian, as from the æquator, his solstice in itt, as in the tropicks; and his different altitudes or azimuths every moment.—*Wr.*

[1] *short year.*] 'T is seemingly strange, but most true, that they who lye betweene the æquator and the tropic, have a hotter summer than they that lye under the æquator; suppose under 12 degrees north or south: bycause with them sommer is twice doubled in 3 months; having the sonn twice over *their* heads in that space: whereas they under the æquator have him twice, but in 6 months distance, and 2 winters between. For the distance of the son from the center in his auge at summer is 1210 semidiameters of the earth: but his nearest distance is never above 1122, every semidiameter containing 7159¼ of our miles.—*Wr.*

Christ.* The first in his book, *De aere, aquis, et locis, syderum ortu, &c.* That is, we are to observe the rising of stars, especially the dog-star, *arcturus*, and the setting of the *pleiades*, or seven stars. From whence notwithstanding we cannot infer the general efficacy of these stars, or co-efficacy particular in medications. Probably expressing no more hereby than if he should have plainly said, especial notice we are to take of the hottest time in summer, of the beginning of autumn and winter; for by the rising and setting of those stars were these times and seasons defined. And therefore subjoins this reason, *quoniam his temporibus morbi finiuntur*, because at these times diseases have their ends, as physicians well know, and he elsewhere affirmeth, that seasons determine diseases, beginning in their contraries; as the spring the diseases of autumn, and the summer those of winter. Now (what is very remarkable) whereas in the same place he adviseth to observe the times of notable mutations, as the equinoxes and the solstices, and to decline medication ten days before and after; how precisely soever canicular cautions be considered, this is not observed by physicians, nor taken notice of by the people. And indeed should we blindly obey the restraints both of physicians and astrologers, we should contract the liberty of our prescriptions, and confine the utility of physic unto a very few days. For, observing the dog-days, and as is expressed, some days before, likewise ten days before, and after the equinoctial and solstitial points, by this observation alone are exempted an hundred days. Whereunto if we add the two Egyptian days in every month,[2] the interlunary and plenilunary exemptions, the eclipses of sun and moon, conjunctions and oppositions planetical, the houses of planets, and the site of the luminaries under the signs, (wherein some would induce a restraint of purgation or phlebotomy,) there would arise above an hundred more; so that of the whole year the use of physic would not be secure much above a quarter. Now as we do not strictly observe these days, so need we not the other;[3] and although consideration be made hereof, yet must we prefer the nearer indication before those which are drawn from the time of the year, or other celestial relations.

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* *Qui nec fallere potest nec falli.*

[2] *the two Ægyptian days, &c.*] Futitissimæ observationes.—*Wr.*

[3] *other.*] i.e. canicular.

The second testimony is taken out of the last piece of his age, and after the experience[4] (as some think) of no less than an hundred years, that is, his *Book of Aphorisms*, or short and definitive determinations in physick. The Aphorism alleged is this, *Sub Cane et ante Canem difficiles sunt purgationes. Sub Cane et Anticane*, say some, including both the dog-stars, but that cannot consist with the Greek, *ἀπὸ κύνα καὶ πρὸ κυνὸς*, nor had that criticism been ever omitted by Galen. Now how true this sentence was in the mouth of Hippocrates, and with what restraint it must be understood by us, will readily appear from the difference between us both in circumstantial relations.

And first, concerning his time and chronology; he lived in the reign of Artaxerxes Longimanus, about the 82nd olympiad, 450 years before Christ, and from our times above two thousand. Now since that time, as we have already declared, the stars have varied their longitudes, and having made large progressions from west to east, the time of the dog-star's ascent must also very much alter; for it ariseth later now in the year than it formerly did in the same latitude, and far later unto us who have a greater elevation, for in the days of Hippocrates this star ascended in Cancer, which now ariseth in Leo, and will in progression of time arise in Virgo; and therefore, in regard of the time wherein he lived, the aphorism was more considerable in his days than in ours, and in times far past than present, and in his country than ours.

The place of his nativity was Coos, an island in the Myrtoan sea, not far from Rhodes, described in maps by the name of Lango, and called by the Turks, who are masters thereof, Stancora, according unto Ptolemy, of northern latitude, 36 degrees. That he lived and writ in these parts is not improbably collected from the epistles that passed betwixt him and Artaxerxes, as also between the citizens of Abdera and Coos, in the behalf of Democritus; which place being seated, from our latitude of 52, 16 degrees southward, there will arise a different consideration, and we may much deceive ourselves, if we conform the ascent of stars in one place unto another, or conceive they arise the same day of the month in Coos and in England; for, as Petavius computes, in the first Julian year, at Alexandria, of latitude 31, the star arose cosmically in the twelfth degree of Cancer, heliacally the 26th; by the compute of Geminus, about this time at Rhodes, of latitude 37, it ascended cosmically the 16th of Cancer, heliacally the first of Leo; and about that time at Rome, of latitude 42, cosmically the 22nd of Cancer, and heliacally the first of Leo; for unto places of greater latitude it ariseth ever later, so that in some latitudes the cosmical ascent happeneth not before the twentieth degree of Virgo, ten days before the autumnal equinox, and if they compute heliacally, after it in Libra.

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[4] *experience.*] Experience of 100 yeares infers he lived at least 120 in all.—*Wr.*

Again, should we allow all, and only compute unto the latitude of Coos, yet would it not impose a total omission of physick: for if in the hottest season of that clime, all physick were to be declined, then surely in many other none were to be used at any time whatsoever; for unto many parts, not only in the spring and autumn, but also in the winter, the sun is nearer than unto the clime of Coos in the summer.

The third consideration concerneth purging medicines, which are at present far different from those implied in this aphorism, and such as were commonly used by Hippocrates. For three degrees we make of purgative medicines; the first thereof is very benign, not far removed from the nature of aliment, into which, upon defect of working, it is ofttimes converted, and in this form do we account manna, cassia, tamarinds, and many more, whereof we find no mention in Hippocrates. The second is also gentle, having a familiarity with some humour, into which it is but converted if it fail of its operation; of this sort are aloe, rhubarb, senna, &c. whereof also few or none were known unto Hippocrates. The third is of a violent and venomous quality, which, frustrate of its action, assumes as it were the nature of poison, such as *scammoneum, colocynthis, elaterium, euphorbium,* *tithymallus, laureola, peplum,* &c. Of this sort Hippocrates made use even in fevers, pleurisies, and quinsies; and that composition is very remarkable which is ascribed unto Diogenes in Ætius,* that is, of pepper, sal-ammoniac, euphorbium, of each an ounce, the doses whereof four scruples and an half, which whosoever should take, would find in his bowels more than a canicular[5] heat, though in the depth of winter. Many of the like nature may be observed in Ætius, or in the book *De Dinamidiis,* ascribed unto Galen, which is the same *verbatim* with the other.

Now in regard of the second, and especially the first degree of purgatives, the aphorism[6] is not of force, but we may safely use them, they being benign and of innoxious qualities; and therefore Lucas Gauricus, who hath endeavoured with many testimonies to advance this consideration at length concedeth that lenitive physick may be used, especially when the moon is well affected in Cancer, or in the watery signs. But in regard of the third degree, the aphorism is considerable; purgations may be dangerous, and a memorable example there is in the medical epistles of Crucius, of a Roman prince that died upon an ounce of *diaphœnicon* taken in this season; from the use whereof we refrain not only in hot seasons, but warily exhibit it at all times in hot diseases; which when necessity requires, we can perform more safely than the ancients, as having better ways of preparation and correction, that is, not only by addition of other bodies, but separation of noxious parts from their own.

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* *Tetrab.* lib. i. Serm. 3.

[5] *canicular.*] Such as is the heate of the dog-dayes in the hottest countreyes, where the dog-star sheweth his force most.—*Wr.*

[6] *aphorism.*] Aphorisme is a general rule grounded upon reason, ratified by experience; but in this place he gives this name to that received opinion, that during the dog-dayes all physicke is to be declined; not bycause itt was grounded upon truthe, but bycause itt was generally *supposed* to bee soe; the ground whereof relating to those countreyes onlye which lye under the torrid zone, hee refutes in this chapter most judiciouslye, and determines the state of the question most excellentlye in the two following periods in four propositions or conclusions. First, that in preventinge there is no use of that rule, for that noe wise man will defer the physick till the dog-dayes, having fitter times in the spring, and the fall, wherein to take such physick with greater advantage. Second, that the heate of the dog-dayes in our clymates is not soe greate as that of the torrid zone in their spring. Third, that in chronical diseases physick may safely bee deferred till those dayes bee over. Fourth, that the strength of the aphorisme is grounded cheefly upon a point of wisdom; that itt must needs bee dangerous to adde fire to fire, i. e. when the bodye is overheated in the dog-dayes to adde the heat and acrimony of purging medicines, but yet where the case is desperate, as in sharpe fits, wisdom must give way to necessity; *better purge than dye.*—*Wr.*

But besides these differences between Hippocrates and us, the physicians of these times and those of antiquity, the condition of the disease and the intention of the physician hold a main consideration in what time and place soever. For physick is either curative or preventive; preventive we call that which by purging noxious humors, and the causes of diseases, preventeth sickness in the healthy, or the recourse[7] thereof in the valetudinary; this is of common use at the spring and fall, and we commend not the same at this season.[8] Therapeutick or curative physick we term that which restoreth the patient unto sanity, and taketh away diseases actually affecting. Now of diseases some are chronical and of long duration, as quartan agues, scurvy, &c. wherein, because they admit of delay, we defer the cure to more advantageous seasons; others we term acute, that is, of short duration and danger, as fevers, pleurisies, &c. in which, because delay is dangerous, and they arise unto their state before the dog-days determine, we apply present remedies according unto indications, respecting rather the acuteness [9] of the disease, and precipitancy [1] of occasion, than the rising or setting of the stars, the effects of the one being disputable, of the other assured and inevitable.

And although astrology may here put in, and plead the secret influence of this star; yet Galen in his comment makes no such consideration, confirming the truth of the aphorism from the heat of the year, and the operation of medicines exhibited. In regard that bodies, being heated by the summer, cannot so well endure the acrimony of purging medicines and because upon purgations contrary motions ensue, the heat of the air attracting the humours outward, and the action of the medicine retracting the same inward. But these are readily salved in the distinctions before alleged, and particularly, in the constitution of our climate and divers others, wherein the air makes no such exhaustion of spirits, and in the benignity of our medicines, whereof some in their own nature, others well prepared, agitate not the humours, nor make a sensible perturbation.

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[7] *recourse.*] Recurrence.

[8] *at this season.*] That is during the dog days.—*Wr.*

[9] *acuteness.*] i. e. the sharp and fierce condition of the disease, admitting noe delay of any requisite helpe in physic.—*Wr.*

[1] *precipitancy.*] Precipitancy is properly the swift motion of a man falling headlong, hence itt signifies the soden passings of occasions in diseases, which once let passe can never be redeemed, and by those means endanger the life of the patient, by suffering the disease (which might have been timely prevented) to get such a masterye as noe physick can quell.—*Wr.*

Nor do we hereby reject or condemn a sober and regulated astrology; we hold there is more truth therein, than in astrologers; in some more than many allow, yet in none so much as some pretend. We deny not the influence of the stars, but often suspect the due application thereof; for though we should affirm, that all things were in all things, that heaven were but earth celestified, and earth but heaven terrestrified, or that each part above had an influence upon its divided affinity below; yet how to single out these relations,* and duly to apply their actions, is a work ofttimes to be effected by some revelation, and Cabala from above, rather than any philosophy, or speculation here below. What power soever they have upon our bodies, it is not requisite they should destroy our reasons, that is, to make us rely on the strength of nature, when she is least able to relieve us; and when we conceive the heaven against us, to refuse the assistance of the earth created for us. This were to suffer from the mouth of the dog above, what others do from the teeth of the dogs below; that is, to be afraid of their proper remedy, and refuse to approach any water,[2] though that hath often proved a cure unto their disease.[3] There is in

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* Hic labor, hoc opus est.

[2] *refuse to approach any water,*] The horror of water in this disease, though a very general, is not an invariable symptom, even in the human subject.

[3] *hath often proved a cure, &c.*] "Morin relates the case of a young woman, twenty years old, who, labouring under symptoms of hydrophobia, was plunged into a tub of water with a bushel of salt dissolved in it, and was harassed with repeated dippings till she became insensible and was at the point of death, when she was still left in the tub sitting against its sides. In this state, we are told, she was at length fortunate enough to recover her senses, when, much to her own astonishment, as well as that of the bystanders, she found herself capable of looking at the water, and even of drinking it without choaking."—*Good's Study of Medicine,* iii, 362.

Dr. Good enumerates a variety of modes of treatment which have been adopted, and medicines which have been prescribed, with most uncertain and only occasional success.

An American plant (*Scutellaria lateriflora, or Virginian skullcap,*) has been used with great success by several American practitioners: and so powerful has been its influence, that it has been made the subject of a separate publication by Dr. Spalding, of New York, in 1819. It appears to have been discovered by a wise men a power beyond the stars; and Ptolemy encourageth us, that by foreknowledge we may evade their actions; for, being but universal causes, they are determined by particular agents; which being inclined not constrained, contain within themselves the casting act, and a power to command the conclusion.

Lastly, if all be conceded, and were there in this aphorism an unrestrained truth, yet were it not reasonable from a caution to infer a non-usance or abolition, from a thing to be used with discretion, not to be used at all. Because the apostle bids us beware of philosophy, heads of extremity will have none at all; an usual fallacy in vulgar and less distinctive brains, who having once overshot the mean, run violently on, and find no rest but in the extremes.[4]

Now hereon we have the longer insisted, because the error is material, and concerns ofttimes the life of man; an error, to be taken notice of by state, and provided against by princes who are of the opinion of Solomon, that their riches consist in the multitude of their subjects. An error worse than some reputed heresies; and of greater danger to the body, than they unto the soul; which whosoever is able to reclaim, he shall save more in one summer, than Themison* destroyed in any autumn; he shall introduce a new way of cure, preserving by theory, as well as practice, and men not only from death, but from destroying themselves.

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* A physician. *Quot Themison ægros autumno occiderit uno.—Juvenal.*

Dr. Lawrence Van Derveer, of New Jersey, who used it successfully in hydrophobia, as early as 1773. From him the remedy was communicated through his son to other practitioners: and was very extensively used at the date of Dr. Spalding's pamphlet. It is taken in a decoction of the dried plant; a tea-spoonful and an half to a quart of boiling water:—the patient taking half-a-pint of this infusion, morning and night.

Dr. S. states that the *scutellaria* has been given to more than 850 persons bitten by animals believed to be rabid, and that in only three instances had hydrophobic symptoms supervened, and in each of these cases the quantity of the plant actually taken had been very inconsiderable. It had also been given to more than 1,100 animals under similar circumstances, and with nearly equal success.

[4] *extremes.*] This censure fitlye reaches all clymats of the worlde and all times for a prudent caution. For as in the state of corrupted nature, this fallacy is (more then epidemical, that is) universall: soe (to the comforte of the worlde) being once swalowed, and put in practise, itt never failes to pay the practisers in fine with their owne coigne, viz. destruction and ruin.—*Wr.*

THE FIFTH BOOK.

THE PARTICULAR PART CONTINUED.

OF MANY THINGS QUESTIONABLE AS THEY ARE COMMONLY DESCRIBED IN PICTURES; OF MANY POPULAR CUSTOMS, &c.

CHAPTER I.

Of the Picture of the Pelican.

AND first, in every place we meet with the picture of the pelican, opening her breast with her bill, and feeding her young ones with the blood distilled from her. Thus is it set forth not only in common signs, but in the crest and scutcheon of many noble families; hath been asserted by many holy writers, and was an hieroglyphick of piety and pity among the Egyptians; on which consideration they spared them at their tables.[5]

Notwithstanding, upon inquiry we find no mention hereof in ancient zoographers, and such as have particularly discoursed upon animals, as Aristotle, Ælian, Pliny, Solinus, and many more; who seldom forget proprieties of such a nature, and have been very punctual in less considerable records. Some ground hereof I confess we may allow, nor need we deny a remarkable affection in pelicans toward their young; for Ælian discoursing of storks, and their affection toward their brood, whom they instruct to fly, and unto whom they redeliver up the provision of their bellies, concludeth at last, that herons and pelicans do the like.

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[5] *And first, &c.*] These singular birds are said to fish in companies; they form a circle on the water, and having by the flapping of their huge wings, driven the terrified fish towards the centre, they suddenly dive all at once as by consent, and soon fill their immense pouches with their prey. In order subsequently to disgorge the contents, in feeding their young, they have only to press the pouch on their breast. This operation may very probably have given rise to the fable, that the pelican opens her breast to nourish her young.

As to its hieroglyphical import, Horapollo says that it was used among the Egyptians as an emblem of folly; on account of the little care it takes to deposit its eggs in a safe place. He relates that it buries them in a hole; that the natives, observing the place, cover it with dry cow's dung, to which they set fire. The old birds immediately endeavouring to extinguish the fire with their wings, get them burnt and so are easily caught. —*Horap. Hierogl. cura Pauw*, 4to. Traj. ad Rh. 1727, pp. 67, 68.

As for the testimonies of ancient fathers, and ecclesiastical writers, we may more safely conceive therein some emblematical, than any real, story: so doth Eucherius confess it to be the emblem of Christ. And we are unwilling literally to receive that account of Jerom, that perceiving her young ones destroyed by serpents, she openeth her side with her bill, by the blood whereof they revive and return unto life again. By which relation they might indeed illustrate the destruction of man by the old serpent, and his restorement by the blood of Christ: and in this sense we shall not dispute the like relations of Austin, Isidore, Albertus, and many more; and under an emblematical intention, we accept it in coat-armour.

As for the hieroglyphick of the Egyptians, they erected the same upon another consideration, which was parental affection; manifested in the protection of her young ones, when her nest was set on fire. For as for letting out her blood, it was not the assertion of the Egyptians, but seems translated unto the pelican from the vulture, as Pierius hath plainly delivered. *Sed quòd pelicanum (ut etiam aliis plerisque persuasum est) rostro pectus dissecantem pingunt, ita ut suo sanguine filios alat, ab Ægyptiorum historia valde alienum est, illi enim vulturem tantùm id facere tradiderunt.*

And lastly, as concerning the picture, if naturally examined, and not hieroglyphically conceived, it containeth many improprieties, disagreeing almost in all things from the true and proper description. For, whereas it is commonly set forth green or yellow, in its proper colour it is inclining to white, excepting the extremities or tops of the wing feathers, which are brown. It is described in the bigness of a hen, whereas it approacheth and sometimes exceedeth the magnitude of a swan.[6] It is commonly painted with a short bill; whereas that of the pelican[7] attaineth sometimes the length of two spans. The bill is made acute or pointed at the end, whereas it is flat and broad,[8] though somewhat inverted at the extreme. It is described like *fissipedes*, or birds which have their feet or claws divided: whereas it is palmipedous, or finfooted, like swans and geese, according to the method of nature, in latirostrous or flat-billed birds, which being generally swimmers, the organ is wisely contrived unto the action, and they are framed with fins or oars upon their feet, and therefore they neither light, nor build on trees, if we except cormorants, who make their nests like herons. Lastly, there is one part omitted more remarkable than any other; that is, the chowle or crop adhering unto the lower side of the bill, and so descending by the throat: a bag or satchel very observable, and of a capacity almost beyond credit; which, notwithstanding, this animal could not want; for therein it receiveth oysters, cockles, scollops, and other testaceous animals, which being not able to break, it retains them until they open, and vomiting them up, takes out the meat contained. This is that part preserved for a rarity, and wherein (as Sanctius delivers) in one dissected, a negro child was found.

A possibility there may be of opening and bleeding their breast, for this may be done by the uncous and pointed extremity of their bill; and some probability also that they sometimes do it for their own relief, though not for their young ones; that is, by nibbling and biting themselves on their itching part of their breast, upon fulness or acrimony of blood. And the same may be better made out, if (as some relate) their feathers on that part are sometimes observed to be red and tinctured with blood.[9]

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[6] *whereas it approacheth, &c.*] This bird, says Buffon, would be the largest of water-birds, were not the body of the albatross more thick, and the legs of the flamingo so much longer. It is sometimes six feet long from point of bill to end of tail, and twelve feet from wing-tip to wing-tip.

[7] *that of the pelican.*] This description of the authors agrees *(per omnia)* with that live pellican, which was to bee seen in King Street, Westminster, 1647, from whence (doubtles) the author maketh this relation ἐξ *αὐτοψίᾳ.*—*Wr.*

[8] *flat and broad.*] From hence itt is that many ancients call this bird the shoveller: and the Greeks derive πελεκὰν from πελεκᾷν, to wound as with an axe, which suites with the shape of his beake in length and breadthe like a rooting axe, *per omnia.*—*Wr.*

But the term *shoveller* is now applied to a species of duck; *anas clypeata.*

CHAPTER II.

Of the Picture of Dolphins.

THAT dolphins are crooked, is not only affirmed by the hand of the painter, but commonly conceived their natural and proper figure, which is not only the opinion of our times, but seems the belief of elder times before us. For, beside the expressions of Ovid and Pliny, the portraits in some ancient coins are framed in this figure, as will appear in some thereof in Gesner, others in Goltsius, and Lævinus Hulsius in his description of coins from Julius Cæsar unto Rodolphus the second.

Notwithstanding, to speak strictly, in their natural figure they are straight, nor have their spine convexed, or more considerably embowed, than sharks, porpoises,[1] whales, and other cetaceous animals, as Scaliger plainly affirmeth; *Corpus habet non magìs curvum quàm reliqui pisces.* As ocular enquiry informeth; and as, unto such as have not had the opportunity to behold them, their proper portraits will discover in Rondeletius, Gesner, and Aldrovandus. And as indeed is deducible from pictures themselves; for though they be drawn repandous, or convexedly crooked in one piece, yet the dolphin that carrieth Arion[2] is concavously inverted, and hath its spine depressed in another. And answerably hereunto may we behold them differently bowed in medals, and the dolphins of Tarus and Fulius do make another flexure from that of Commodus and Agrippa.[3]

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[9] *A possibility, &c.*] This paragraph was first added in 6th edition.

[1] *porpoises.*] Reade porkpisces. The porkpisce (that is the dolphin) hath his name from the hog hee resembles in convexity and curvitye of his backe, from the head to the tayle: nor is hee otherwise curbe, then as a hog is: except that before a storme, hee tumbles just as a hog runs. That which I once saw, cutt up in Fish street, was of this forme and above five foote longe: his skin not skaly, but smoothe and black, like bacon in the chimney; and his bowels in all points like a hog: and yf instead of his four fins you imagine four feete, hee would represent a black hog (ast it were) sweal'd alive.—*Wr.*

This creature, so graphically described by the dean, is probably the common dolphin,—*Delphinus Delphis;* but the porpoise is a different animal, *Delphis Phocæna*, now constituted a distinct genus. Ray, however, says, that the porpoise is the dolphin of the ancients. The following passage from his *Philosophical Letters*, p. 46, corroborates the dean's proposed etymology. It occurs in a letter to Dr. Martin Lister, May 7, 1669. "Totam corpus copiosâ et densâ pinguedine, (piscatores *blubber* vocant) duorum plus minus digitorum crassitie undique integebatur, immediate sub cute, et supra carnem musculosam sita, ut in porcis; ob quam rationem, et quod porcorum grunnitum quadantenus imitetur, *porpesse*,—i. e. *porcum piscem*, dictum eum existimo."

And therefore what is delivered of their incurvity, must either be taken emphatically, that is, not really, but in appearance; which happeneth when they leap above water and suddenly shoot down again: which is a fallacy in vision, whereby straight bodies in a sudden motion protruded obliquely downward, appear unto the eye crooked; and this is the construction of Bellonius: or, if it be taken really, it must not universally and perpetually; that is, not when they swim and remain in their proper figures, but only when they leap, or impetuously whirl their bodies any way; and this is the opinion of Gesnerus. Or lastly, it may be taken neither really nor emphatically, but only emblematically; for being the hieroglyphick of celerity,[4] and swifter than other animals, men best expressed their velocity by incurvity, and under some figure of a bow; and in this sense probably do heralds also receive it, when, from a dolphin extended, they distinguish a dolphin embowed.

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[2] *yet the dolphin that carrieth Arion.*] "The Persian authors of high antiquity say, that the *delfin* will take on his back persons in danger of being drowned, from whence comes the fable of Arion. The word is derived from דלף *stillare, fluere*, delf; because the dolphin was considered as the king of the sea, and Neptune a monarch represented under the image of this fish. Dolphins were the symbols of maritime towns and cities. See Spanheim, 4to. 141, ed. 1671." *Dr. S. Weston's Specimen of the Conformity of the European with the Oriental Languages, &c.* 8vo. 1803, pp. 75, 76. See also *Alciati Emblem.* xc.

[3] *And answerably, &c.*] First added in 3rd edition.

[4] *the hieroglyphick of celerity.*] Sylvanus Morgan, in his *Sphere of Gentry*, (fol. 1661) p. 69, says that the dolphin is the hieroglyphick of society! "there being no fish else that loves the company of men."

"Some authors, more especially the ancients, have asserted that dolphins have a lively and natural affection towards the human species, with which they are easily led to familiarize. They have recounted many marvellous stories on this subject. All that is known with certainty is, that when they perceive a ship at sea, they rush in a crowd before it, surround it, and express their confidence by rapid, varied, and repeated evolutions, sometimes bounding, leaping, and manœuvering in all manner of ways; sometimes performing complicated circumvolutions, and exhibiting a degree of grace, agility, dexterity, and strength, which is perfectly astonishing. Perhaps however they follow the track of vessels with no other view than the hopes of preying on something that may fall from them".—*Cuvier, by Griffiths.*

And thus also must that picture be taken of a dolphin clasping an anchor;[5] that is, not really, as is by most conceived out of affection unto man, conveying the anchor unto the ground; but emblematically, according as Pierius hath expressed it, the swiftest animal conjoined with that heavy body, implying that common moral, *festina lentè:* and that celerity should always be contempered with cunctation.

CHAPTER III.

Of the Picture of a Grasshopper.

THERE is also among us a common description and picture of a grasshopper, as may be observed in the pictures of emblematists, in the coats of several families, and as the word *cicada* is usually translated in dictionaries. Wherein to speak strictly, if by this word grasshopper, we understand that animal which is implied by τέττιξ with the Greeks, and by *cicada* with the Latins, we may with safety affirm the picture is widely mistaken, and that for aught enquiry can inform, there is no such insect in England.[6] Which how paradoxical soever, upon a strict enquiry, will prove undeniable truth.

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[5] *a dolphin clasping an anchor.*] The device of the family of Manutius, celebrated as learned printers at Venice and Rome. See *Alciati Emblem.* cxliv.

[6] *no such insect in England.*] It is perfectly true that, till recently, no species of the true Linnæan Cicadæ, (*Tettigonia*, Fab.) had been discovered in Great Britain. About twenty years since, I had the pleasure of adding this classical and most interesting genus to the British Fauna. Having, about that time, engaged Mr. Daniel Bydder, (a weaver in Spitalfields, and a very enthusiastic entomologist,) to collect for me in the New Forest, Hampshire, I received from him thence many valuable insects from time to time, and at length, to my surprise and great satisfaction, a pair of CICADÆ! Mr. John Curtis (since deservedly well known as the author of *British Entomology,)* was then residing with me as draughtsman; and no doubt our united examinations were diligently bestowed to find the little stranger among the described species of the continent; but in vain. I quite forget whether we bestowed a MS. name; probably not; as scarcely hoping that the first species discovered to be indigenous, would also prove to be peculiar to our country, and be distinguished by the national appellation of *Cicada* ANGLICA. Yet so it has proved: Mr. Samouelle, I believe, first gave it that name; and Mr. Curtis has given an exquisite figure, and full description of it, in the 9th vol. of his *British Entomology*, No. 392. I cannot however speak

For first, that animal which the French term *sauterelle*, we a grasshopper, and which under this name is commonly described by us, is named Ἀκρὶς by the Greeks, by the Latins *locusta*, and by ourselves in proper speech a locust; as in the diet of John Baptist, and in our translation, "the locusts have no king, yet go they forth all of them by bands."* Again, between the *cicada* and that we call a grasshopper, the differences are very many, as may be observed in themselves, or their descriptions in Matthiolus, Aldrovandus, and Muffetus. For first, they are differently cucullated or capuched upon the head and back, and in the *cicadæ* the eyes are more prominent: the locusts have *antennæ* or long horns before, with a long falcation or forcipated tail behind: and being ordained for saltation, their hinder legs do far exceed the other. The locust or our grasshopper hath teeth, the *cicada* none at all; nor any mouth, according unto Aristotle.[7] The *cicada* is most upon trees; and lastly, the *frittinnitus*, or proper note thereof, is far more shrill than that of the locust, and its life so short in summer, that for provision it needs not have recourse unto the providence of the pismire in winter.

And therefore where the cicada must be understood, the pictures of heralds and emblematists are not exact, nor is it safe to adhere unto the interpretation of dictionaries, and we must with candour make out our own translations; for in the plague of Egypt, Exodus x, the word Ἀκρὶς is translated a locust, but in the same sense and subject, Wisdom xvi, it is translated a grasshopper; "for them the bitings of grasshoppers and flies killed;" whereas we have declared before the cicada hath no teeth, but is conceived to live upon dew,

* Proverbs xxx.

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in so high terms of his account of its original discovery. I cannot understand why he has thus dryly noticed it: "*C. Anglica* was first discovered in the New Forest, about twenty years ago." I should have supposed that it might have given him some pleasure to attach to his narrative the name of an old friend, from whom he had received early and valuable assistance, and to whom he was indebted for his acquaintance with the art he has so long and so successfully pursued. At all events he ought to have recorded the name of the poor man by whose industry and perseverance the discovery was effected.

[7] *The locust, &c.*] Both the *locustæ* and *cicadæ* are furnished with teeth—if by that term we are to understand *mandibulæ* and *maxillæ*. But in *cicada* they are not so obvious; being enclosed in the labium. This conformation probably led Aristotle to say they had no mouth.

and the possibility of its subsistence is disputed by Licetus. Hereof I perceive Muffetus hath taken notice, dissenting from Langius and Lycosthenes, while they deliver the *cicadæ* destroyed the fruits in Germany, where that insect is not found, and therefore concludeth, *Tam ipsos quàm alios deceptos fuisse autumo, dum locustas cicadas esse vulgari errore crederent.*

And hereby there may be some mistake in the due dispensation of medicines desumed from this animal, particularly of *diatettigon,* commended by Ætius, in the affections of the kidnies. It must be likewise understood with some restriction what hath been affirmed by Isidore, and yet delivered by many, that cicades are bred out of cuckoo-spittle or woodsear, that is, that spumous frothy dew or exudation, or both, found upon plants, especially about the joints of lavender and rosemary, observable with us about the latter end of May. For here the true cicada is not bred; but certain it is, that out of this, some kind of locust doth proceed, for herein may be discovered a little insect of a festucine or pale green, resembling in all parts a locust, or what we call a grasshopper.[8]

Lastly, the word itself is improper, and the term grasshopper not appliable unto the cicada; for therein the organs of motion are not contrived for saltation, nor have the hinder legs of such extension, as is observable in salient animals, and such as move by leaping. Whereto the locust is very well conformed, for therein the legs behind are longer than all the body, and make at the second joint acute angles, at a considerable advancement above their backs.

The mistake therefore with us might have its original from a defect in our language, for having not the insect with us, we have not fallen upon its proper name, and so make use of a term common unto it and the locust; whereas other countries have proper expressions for it. So the Italian calls it

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[8] *cicades are bred, &c.*] Here is another error. The froth spoken of is always found to contain the *larva* of a little skipping insect, frequently mis-called a *cicada,* but properly *cercopis*; allied in form to *cicada,* and of the same order, viz. *homoptera,* but very distinct in generic character, and especially without the power of sound. It has no great resemblance to *locustæ,* which belong to a distinct order, viz. *orthoptera.*

cicada, the Spaniard *cigarra*, and the French *cigale;* all which appellations conform unto the original, and properly express this animal. Whereas our word is borrowed from the Saxon gærsthoop, which our forefathers, who never beheld the cicada, used for that insect which we yet call a grasshopper.[9]

CHAPTER IV.

Of the Picture of the Serpent tempting Eve.

In the picture of paradise, and delusion of our first parents, the serpent is often described with human visage,[1] not unlike unto Cadmus or his wife in the act of their metamorphosis. Which is not a mere pictorial contrivance or invention of the picturer, but an ancient tradition and conceived reality, as it stands delivered by Beda and authors of some antiquity,[2] that is, that Satan appeared not unto Eve in the naked form of a serpent, but with a virgin's head, that thereby he might become more acceptable, and his temptation find the easier entertainment. Which nevertheless is a conceit not to be admitted, and the plain and received figure is with better reason embraced.

For first, as Pierius observeth from Barcephas, the assumption of human shape had proved a disadvantage unto Satan, affording not only a suspicious amazement in Eve,[3] before the fact, in beholding a third humanity beside herself and Adam, but leaving some excuse unto the woman, which afterward the man took up with lesser reason, that is, to have been deceived by another like herself.

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[9] *Whereas our word, &c.*] This sentence was first added in 6th edition.—See vol. iv, 185.

[1] *visage.*] See Munster's Hebrew Bible, where in the letter which begins the first Ψ the serpent is made with a Virgin's face.—*Wr.*

In Munster's Hebrew and Latin Bible, (Basil, 1535, *ex Off. Bebeliana,*) at the commencement of the Psalms, is the initial letter B, which is a wood-cut of Adam, Eve, and the serpent between them, with the face of a virgin.

[2] *antiquity.*] See vol. ii, p. 230, where he quotes Basil saying, that the serpent went upright and spake. 'T is probable (and thwarteth noe truth) that the serpent spake to Eve. Does not the text expressly saye soe? The devil had as much power then as now, and yf now he can take upon him the forme of an angel of light, why not then the face of a humane creature as well as the voice of man?—*Wr.*

[3] *Eve.*] Eve might easier entertaine a suspicious amazement to heare a serpent speake in a humane voyce, than to heare a humane voyce in a humane shape; nor was itt more wonder for Sathan to assume one than both. It suited better with

Again, there is no inconvenience in the shape assumed, or any considerable impediment that it might disturb that performance in the common form of a serpent. For whereas it is conceived the woman must needs be afraid thereof, and rather fly than approach it, it was not agreeable unto the condition of paradise and state of innocency therein; if in that place, as most determine, no creature was hurtful or terrible unto man, and those destructive effects they now discover succeeded the curse, and came in with thorns and briars; and therefore Eugubinus (who affirmeth this serpent was a basilisk) incurreth no absurdity, nor need we infer that Eve should be destroyed immediately upon that vision. For noxious animals could offend them no more in the garden than Noah in the ark; as they peaceably received their names, so they friendly possessed their natures, and were their conditions destructive unto each other, they were not so unto man, whose constitutions then were antidotes, and needed not fear poisons; and if (as most conceive) there were but two created of every kind, they could not at that time destroy either man or themselves, for this had frustrated the command of multiplication, destroyed a species, and imperfected the creation; and therefore also if Cain were the first man born, with him entered, not only the act, but the first power of murder, for before that time neither could the serpent nor Adam destroy Eve, nor Adam and Eve each other, for that had overthrown the intention of the world, and put its Creator to act the sixth day over again.

Moreover, whereas in regard of speech, and vocal conference with Eve, it may be thought he would rather assume an human shape and organs, than the improper form of a

his crafte to deliver his wile by a face suitable to the voice of man, and since we believe the one, we may without error beleive the other. But itt is safest to believe what we finde recorded of the human voyce, and leave the other to Him who thought not fit to reveale any more. Wee see the fathers differ in opinion, and there is enough on either side to refute the scorne of Julian, who payd deare inoughe for his atheistical, or rather antitheisticall blasphemye.—*Wr.*

serpent, it implies no material impediment. Nor need we to wonder how he contrived a voice out of the mouth of a serpent, who hath done the like out of the belly of a Pythonissa, and the trunk of an oak, as he did for many years at Dodona.

Lastly, whereas it might be conceived[4] that an human shape was fitter for this enterprise, it being more than probable she would be amazed to hear a serpent speak; some conceive she might not yet be certain that only man was privileged with speech, and being in the novity of the creation, and inexperience of all things, might not be affrighted to hear a serpent speak. Besides, she might be ignorant of their natures, who was not versed in their names, as being not present at the general survey of animals when

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[4] *conceived.*] Itt might wel bee conceived (and soe it seemes itt was) by St. Basil, that a virgin's head (hee does not saye a humane shape) was fittest for this intention of speakinge, itt being most probable Eve would be more amazed to heare such a creature as a serpent speake with a humane voyce, then to heare a human voyce passe through the mouth of a virgin face. To hear a voice without a head must needs (as the subtile serpent knew full well) have started in Eve either the supposition of a causeles miracle, or the suspition of an imposture; therefore to cut off those scruples, which might have prevented and frustrated his ayme, tis most probable the subtile tempter assumed the face as well as the voice of a Virgin to conveigh that temptation which he supposed Eve would greedily entertain.

Julius Scaliger, that magazin of all various learninge, in his 183rd exercitation and 4th section, speaking of certaine strange kinds of serpents, reports that in Malabar, there are serpents 8 foote long, of a horrible aspect, but harmless unless they bee provoked. These he cals boy-lovers (pæderotas,) for that they will for manye houres together stand bolt upright gazing on the boyes at their sportes, never offring to hurte any of them.

These, saithe he, while they glide on the ground are like other serpents or eeles (like conger eeles,) but raising themselves upright they spread themselves into such a corpulent breadthe, that had they feet they would seeme to be men, and therefore he cals them by a coigned name, ἐγχελανθρώπους, eele-like men, though hee might more properly call them ὀφιανθρώπους, dragon-like men. Now though we can yeeld noe greater beleefe to this story then the Portuguez that traffique thither deserve, yet bycause the world owes many excellent discoveryes of hidden truths to his indefatigable diligence and learned labors, seldome taxed for fabulous assertions, why may we not think that itt was this kinde of serpent, whose shape Satan assumed when he spake to Eve.* For since Moses tels us that God permitted the serpent to deceive our grandmother by faigning the voyce of man, wee may reasonably acquit St. Basil of error, or offring violence to trueth, that hee tooke it as granted by a paritye of like reason, that the serpent would rather assume such a face and appearance of humane forme as might sute with a humane voyce, at least would frame a humane visage as well as a human tounge, which is but a parte in the head of man, for which the head (rather then for any other sense) seemes to have been made by God, that the spirits of men (which till they discover themselves by language cannot bee understood) might by the benefit of this admirable instrument, have mutual commerce and intelligence, and conveighe their inwarde conceptions each to other. Surely yf every such a strange serpent as this which Scaliger describes were scene in the world, we must perforce grant that they are some of that kinde which God at first created soe, and that Satan subtily choose to enter into that kinde which before the curse naturally went upright *(as they say the basiliske now does,)* and could soe easily, soe nearly represent the appearance and shew of man not only in gate but in voyce as the Scripture speakes. That they have no feete makes soe much the more for the conjecture, and that however itt seemes this kinde of serpent (which Satan used as an instrument of his fraud) did originally goe upwright, and can yet frame himselfe into that posture, yet by God's just doome is now forced to creep on his belly in the duste; where though they strike at our heele, they are liable to have their heade bruised and trampled on by the foote of man.—*Wr.*

Respecting the basilisk, see note 9, vol. ii. p. 414.

In one of the illustrations to Cædmon's Paraphrase, mentioned p. 99, I find the serpent standing "bolt upright" receiving

* See what I noted long since on Gen. iii, 14, to this purpose in the Geneva Bible.

his sentence, and another figure of him lying on the ground, to indicate his condemnation to subsequent *reptility*. Some critics have complained of the painters for representing him without feet in his interview with Eve, whereas, say they, his creeping on his belly was inflicted on him as a punishment. Had those critics been acquainted with professor Mayer's assertion, that rudimental feet are found in almost all the serpent tribe, they would doubtless have regarded it as a confirmation of their opinion, and would have contended that these imperfect and unserviceable rudiments of feet were all the traces left to them of those locomotive powers which this, as well as other vertebrated animals, had originally enjoyed.

Dr. Adam Clarke gives a very long and elaborate article on the temptation of Eve. His opinion is that the tempter was an *ape;* he builds his hypothesis on the fact that the Hebrew word (*nachash*, Gen. iii, 1,) is nearly the same with an Arabic word, signifying *an ape* and THE DEVIL! He thus sums up: "In this account we find, 1. That whatever this *nachash* was, he stood at the *head* of all inferior animals for wisdom and understanding. 2. That he *walked erect*, for this is necessarily implied in his punishment—*on thy belly* (i. e. on all fours) *shalt thou go.* 3. That he was *endued with the gift of speech*, for a conversation is here related between him and the woman. 4. That he was also endued with the *gift of reason*, for we find him reasoning and disputing with Eve. 5. That these things were *common to this creature*, the woman no doubt having often seen him walk erect, talk, and reason, and therefore she testifies no kind of surprise when he accosts her in the language related in the text." Granting, for a moment, the Doctor's five positions, I would ask, does he mean that the ape is a creature which *now* answers the description? Môst certainly it does not, any more than the serpent. If on the other hand he means that the creature, through whom Satan tempted Eve, had *previously* possessed those advantages, but *lost them* as a punishment of that offence, then why not suppose it to have been a serpent, or any other creature, as well as the ape? The theory itself stultifies any attempt to discover the tempter among creatures *now* in existence, because we are required to suppose their nature and habits to have totally changed. The serpent certainly has one claim, which the ape has not, namely, that its present mode of going is (in accordance with the Scriptural description) *on its belly;* which, with deference to the learned Doctor, "going on all fours" is not, unless he can justify what he in fact says, that *quadrupeds* and *reptiles* move alike! Moreover, his selection is specially unfortunate in this very respect, that of all animals the ape *now* approaches most nearly to the human mode of walking, and exhibits therefore the most incomplete example of the fulfilment of the curse—"*on thy belly shalt thou go.*"

Hadrian Beverland, in his *Peccatum Originale*, 12mo. 1676, has published his strange speculations as to the NATURE of the temptation, to which our mother yielded. But after all, neither as one point nor another, which has not been clearly revealed, shall we be likely either to obtain or communicate any useful information. The indulgence of a prurient and speculative imagination on points which, not having been disclosed, cannot be discovered, and the knowledge of which would serve no good purpose, were far better restrained. We know, alas, that what constituted sin originally, has ever been and ever will be its heinous feature in the sight of the Great Lawgiver—viz. disobedience to his known and understood commands.

Adam assigned unto every one a name concordant unto its nature. Nor is this only my opinion, but the determination of Lombard and Tostatus, and also the reply of Cyril unto the objection of Julian, who compared this story unto the fables of the Greeks.

CHAPTER V.

Of the Picture of Adam and Eve with Navels.

ANOTHER mistake there may be in the picture of our first parents, who after the manner of their posterity are both delineated with a navel; and this is observable not only in ordinary and stained pieces, but in the authentic draughts of Urbin, Angelo, and others.[5] Which notwithstanding cannot be allowed, except we impute that unto the first cause, which we impose not on the second, or what we deny unto Nature, we impute unto naturity itself, that is, that in the first and most accomplished piece, the Creator affected superfluities, or ordained parts without use or office.[6]

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[5] *and others.*] It is observable in the rude figures of Adam and Eve, among the illuminations of Cædmon's *Metrical Paraphrase of Scripture History* engraved in the 24th vol. of the *Archæologia*. But worse mistakes have been committed in depicting "our first parents." In the gallery of the convent of Jesuits, at Lisbon, there is a fine picture of Adam in paradise, dressed (*qu. after the fall?*) in blue breeches with silver buckles, and Eve with a striped petticoat. In the distance appears a procession of capuchins bearing the cross.

[6] *Which notwithstanding, &c.*] It seems to have been the intention of our author, in this somewhat obscure sentence, to object, that, in supposing Adam to have been formed with a navel, we suppose a superfluity in that which was produced by nature (*naturity,*) while in nature herself we affirm there is nothing superfluous, or useless. It is, however, somewhat hazardous to pronounce that useless whose office may not be very obvious to us. Who will venture to point out the office of the *mammæ* in the male sex? or to say wherefore some of the serpent tribes are provided with the rudiments of feet which can scarcely, if at all, be of any use to them?—a fact which has been asserted recently by a German naturalist of distinction, Dr. Mayer, as the result of long and very extensive anatomical examination of the principal families of the serpents. He thereon proposes a new division of the order,—into PHÆNOPTERA, those snakes whose rudimental feet are externally visible, and comprising *Boa, Python, Eryx, Clothonia,* and *Tortrix;* CRYPTOPODA, in which the bony rudiments are entirely concealed beneath the skin, containing *Anguis, Typhlops, and Amphisbæna;* and CHONDROPODA and APODA, in which the rudiments are scarcely, or not at all, observable.—*Nova Acta Acad. Cæsar. Naturæ Curiosorum,* tom. xii, p. 2.

Respecting the singular subject of discussion in this chapter; it appears to me that not only Adam and Eve, but all species, both of the animal, vegetable, and mineral kingdoms, were created at once in their perfect state; and therefore all exhibiting such remaining traces of a less perfect state, as those species, in their

For the use of the navel is to continue the infant unto the mother, and by the vessels thereof to convey its aliment and sustentation. The vessels whereof it consisteth, are the umbilical vein, which is a branch of the porta, and implanted in the liver of the infant; two arteries likewise arising from the iliacal branches, by which the infant receiveth the purer portion of blood and spirits from the mother; and lastly, the *urachos* or ligamental passage derived from the bottom of the bladder, whereby it dischargeth the waterish and urinary part of its aliment. Now upon the birth, when the infant forsaketh the womb, although it dilacerate, and break the involving membranes, yet do these vessels hold, and by the mediation thereof the infant is connected unto the womb, not only before, but awhile also after the birth. These therefore the midwife cutteth off, contriving them into a knot close unto the body of the infant; from whence ensueth that tortuosity or complicated nodosity we usually call the navel; occasioned by the colligation of vessels before mentioned. Now the navel being a part, not precedent, but subsequent unto generation, nativity, or parturition, it cannot be well imagined at the creation or extraordinary formation of Adam, who immediately issued from the artifice of God; nor also that of Eve, who was not solemnly begotten, but suddenly framed, and anomalously proceeded from Adam.

And if we be led into conclusions that Adam had also this part, because we behold the same in ourselves, the inference is not reasonable; for if we conceive the way of his formation, or of the first animals, did carry in all points a strict conformity unto succeeding productions, we might fall into imaginations that Adam was made without teeth; or that he ran through those notable alterations in the vessels of the heart, which the infant suffereth after birth: we need not

maturity, retain. If so, Adam was created with the marks of an earlier stage of existence, though he had never passed through that stage.

Sir Thomas's opinion is cited and adopted by Dr. John Bulwer, in his most curious work, entitled *Anthropometamorphosis: Man Transformed: or the Artificial Changling, Historically Presented, &c.* 4to. 1653. p. 401. In the same work (p. 492,) Dr. B. also discusses at some length Sir Thomas's chapter on pygmies, (c. xi, book IV.) See *Rel. Med.* p. 2. § 10, where Adam is called, "the man without a navel."—Ross deems the part in question to have been intended by the Creator merely for ornament; in support of which opinion he cites Canticles vii, 2!!

dispute whether the egg or bird were first; and might conceive that dogs were created blind, because we observe they are littered so with us. Which to affirm, is to confound, at least to regulate creation unto generation, the first acts of God, unto the second of nature; which were determined in that general indulgence, increase and multiply, produce or propagate each other; that is, not answerably in all points, but in a prolonged method according to seminal progression. For the formation of things at first was different from their generation after; and although it had nothing to precede it, was aptly contrived for that which should succeed it. And therefore though Adam were framed without this part, as having no other womb than that of his proper principles, yet was not his posterity without the same; for the seminality of his fabrick contained the power thereof; and was endued with the science of those parts whose predestinations upon succession it did accomplish.

All the navel therefore and conjunctive part we can suppose in Adam, was his dependency on his Maker, and the connexion he must needs have unto heaven, who was the Son of God. For, holding no dependence on any preceding efficient but God, in the act of his production there may be conceived some connexion, and Adam to have been in a momental navel with his Maker.[7] And although from his carnality and corporal existence, the conjunction seemeth no nearer than of causality and effect; yet in his immortal and diviner part he seemed to hold a nearer coherence, and an umbilicality even with God himself. And so indeed although the propriety of this part be found but in some animals, and many species there are which have no navel at all; yet is there one link and common connexion, one general ligament, and necessary obligation of all whatever unto God. Whereby, although they act themselves at distance, and seem to be at loose, yet do they hold a continuity with their Maker. Which catenation or conserving union, whenever his pleasure shall divide, let go, or separate, they shall fall from their

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[7] *in a momental navel with his Maker.*] Momental; *important.* "Substantially, (or in an important sense,) in a state of connexion with his Maker."

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existence, essence, and operations; in brief, they must retire unto their primitive nothing, and shrink into their chaos again.

They who hold the egg was before the bird, prevent this doubt in many other animals, which also extendeth unto them. For birds are nourished by umbilical vessels, and the navel is manifest sometimes a day or two after exclusion. The same is probable in all oviparous exclusions, if the lesser part of eggs must serve for the formation, the greater part for nutriment. The same is made out in the eggs of snakes; and is not improbable in the generation of porwiggles or tadpoles, and may be also true in some vermiparous exclusions: although (as we have observed in the daily progress in some) the whole maggot is little enough to make a fly, without any part remaining.[8]

CHAPTER VI.

Of the Pictures of the Jews and Eastern Nations, at their Feasts, especially our Saviour at the Passover.

Concerning the pictures of the Jews, and eastern nations at their feasts, concerning the gesture of our Saviour at the passover, who is usually described sitting upon a stool or bench at a square table, in the midst of the twelve, many make great doubt; and (though they concede a table gesture) will hardly allow this usual way of session.[9]

Wherein, restraining no man's enquiry, it will appear that accubation, or lying down at meals was a gesture used by very many nations. That the Persians used it, beside the testimony of humane writers, is deducible from that passage in Esther.* "That when the king returned into the place of the banquet of wine, Haman was fallen upon the bed whereon Esther was." That the Parthians used it, is evident from Athenæus, who delivereth out of Possidonius, that their king lay down at meals, on an higher bed than others.[1] That Cleopatra thus entertained Anthony, the same author manifesteth, when he saith, she prepared twelve Tricliniums. That it was in use among the Greeks, the word *triclinium* implieth, and the same is also declarable from many places in the *Symposiacks* of Plutarch. That it was not out of fashion in the days of Aristotle, he declareth in his *Politicks;* when among the institutionary rules of youth, he adviseth they might not be permitted to hear iambicks and tragedies before they were admitted unto discumbency or lying along with others at their meals. That the Romans used this gesture at repast, beside many more, is evident from Lipsius, Mercurialis, Salmasius and Ciaconius, who have expressly and distinctly treated hereof.

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* *Esther* vii.

[8] *They who hold, &c.*] This paragraph was first added in 2nd edition.

[9] *session.*] See Fenelon's Letter to the French Academy; § 8, p. 231. Glasg. 1750.—*Jeff.* I give this reference, though I have not been able to avail myself of it.

Now of their accumbing places, the one was called *stibadion* and *sigma,* carrying the figure of an half-moon, and of an uncertain capacity, whereupon it received the name of *hexaclinon, octoclinon,* according unto that of Martial,

> Accipe Lunatâ scriptum testudine sigma:
> Octo capit, veniat quisquis amicus erit.

Hereat in several ages the left and right hand were the principal places, and the most honourable person, if he were not master of the feast, possessed one of those rooms. The other was termed *triclinium,* that is, three beds about a table, as may be seen in the figures thereof, and particularly in the *Rhamnusian triclinium,* set down by Mercurialis.* The customary use hereof was probably deduced from the frequent use of bathing, after which they commonly retired to bed, and refected themselves with repast; and so that custom by degrees changed their cubiculary beds into discubitory, and introduced a fashion to go from the baths unto these.

As for their gesture or position, the men lay down leaning on their left elbow, their back being advanced by some pillow or soft substance: the second lay so with his back towards the first, that his head attained about his bosom;[2] and the rest in the same order. For women, they sat sometimes distinctly with their sex, sometimes promiscuously with men, according to affection or favour, as is delivered by Juvenal.

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* *De Arte Gymnastica.*

[1] *That the Persians, &c.*] This sentence was first added in the 2nd edition.

> Gremio jacuit nova nupta mariti.

And by Suetonius, of Caligula, that at his feasts he placed his sisters, with whom he had been incontinent, successively in order below him.

Again, as their beds were three, so the guests did not usually exceed that number in every one, according to the ancient laws, and proverbial observations to begin with the graces, and make up their feasts with the muses; and therefore it was remarkable in the Emperor Lucius Verus, that he lay down with twelve, which was, saith Julius Capitolinus, *præter exempla majorum,* not according to the custom of his predecessors, except it were at public and nuptial suppers. The regular number was also exceeded in the last supper, whereat there were no less than thirteen, and in no place fewer than ten, for as Josephus delivereth, it was not lawful to celebrate the passover with fewer than that number.[3]

Lastly, for the disposing and ordering of the persons; the first and middle beds were for the guests, the third and lowest for the master of the house and his family, he always lying in the first place of the last bed, that is, next the middle bed, but if the wife or children were absent, their rooms were supplied by the *umbræ,* or hangers on, according to that of Juvenal.[4]

> ——— *Locus est et pluribus umbris.*

For the guests, the honourablest place in every bed was the first, excepting the middle or second bed, wherein the most honourable guest of the feast was placed in the last place, because by that position he might be next the master of the feast.* For the master lying in the first of the last bed, and the principal guest in the last place of the second, they must needs be next each other, as this figure doth plainly declare, and whereby we may apprehend the feast of Perpenna made unto Sertorius, described by Sallustius, whose words we shall thus read with Salmasius: *Igitur discubuere, Sertorius inferior in medio lecto, suprà Fabius; Antonius in summo; Infrà scriba Sertorii Versius; alter scriba Mecœnas in imo, medius inter Tarquitium et dominum Perpennam.*

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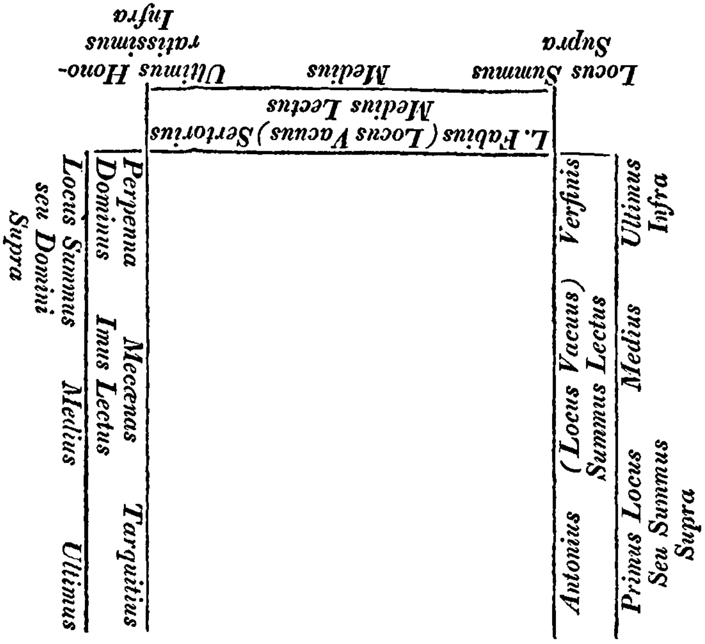
[2] *bosom.*] See note 8, p. 108.

[3] *the regular number, &c.*] This sentence first added in 2nd edition.

[4] *Juvenal.*] Not Juvenal, but Horace,) *Epist.* lib. i, 8, l. 28. See also *Hor. Sat.* ii, 8, 22: "—quos Mæcenas adduxerat umbras,"—"Porro et conviva ad cœnam dicitur *σκιὰν* suum adducere, cum amicum aliquem non invitatum secum adducit."—*Plut.* 7, 6.


Locus Summus
Supra
Medius
Ultimus Hono-
ratissimus
Infra
Medius Lectus
L. Fabius (Locus Vacuus) Sertorius
Perpenna
Dominus
Locus Summus
seu Domini
Supra
Mecœnas
Imus Lectus
Medius
Tarquitius
Ultimus
Versius
Ultimus
Infra
Antonius (Locus Vacuus)
Summus Lectus
Medius
Primus Locus
Seu Summus
Supra

At this feast there were but seven, the middle places of the highest and middle bed being vacant, and hereat was Sertorius the general, and principal guest slain; and so may we make out what is delivered by Plutarch in his life, that lying on his back and raising himself up, Perpenna cast himself upon his stomach, which he might very well do, being master of the feast, and lying next unto him; and thus also from this tricliniary disposure, we may illustrate that obscure expression of Seneca; that the north wind was in the middle, the north-east on the higher side, and the north-west on the lower. For as appeareth in the circle of the winds, the north-east will answer the bed of Antonius, and the north-west that of Perpenna.

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* *Jul. Scalig. Familiarum Exercitationum Problema* 1.

That the custom of feasting upon beds was in use among the Hebrews, many deduce from Ezekiel,* "Thou sattest upon a stately bed, and a table prepared before it." The custom of discalceation or putting off their shoes at meals, is conceived to confirm the same; as by that means keeping their beds clean: and therefore they had a peculiar charge to eat the passover with their shoes on; which injunction were needless, if they used not to put them off. However it were in times of high antiquity, probable it is that in after ages they conformed unto the fashions of the Assyrians and eastern nations, and lastly of the Romans, being reduced by Pompey unto a provincial subjection.[5]

That this discumbency at meals was in use in the days of our Saviour, is conceived probable from several speeches of his expressed in that phrase, even unto common auditors, as Luke xiv, *Cum invitatus fueris ad nuptias non discumbas in primo loco;* and, besides many more, Matthew xxiii. When reprehending the Scribes and Pharisees, he saith, *Amant protoclisias, id est, primos recubitus in cœnis, et protocathedrias, sive, primas cathedras, in synagogis;* wherein the terms are very distinct, and by an antithesis do plainly distinguish the posture of sitting, from this of lying on beds. The consent of the Jews with the Romans in other ceremonies and rites of feasting makes probable their conformity in this. The Romans washed, were anointed, and wore a cenatory garment: and that the same was practised by the Jews, is deducible from that expostulation of our Saviour with Simon,† that he washed not his feet, nor anointed his head with oil; the common civilities at festival entertainments: and that expression of his concerning the cenatory or wedding garment;* and as some conceive of the linen garment of the young man, or St. John; which might be the same he wore the night before at the last supper.[6]

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* Ezek. xxiii. † Luke vii.

[5] *However it were, &c.*] This sentence was first added in 2nd edition.

That they used this gesture at the psssover, is more than probable from the testimony of Jewish writers, and particularly of Ben-Maimon recorded by Scaliger, *De Emendatione temporum*. After the second cup according to the institution, the son asketh, what meaneth this service? † then he that maketh the declaration, saith, how different is this night from all other nights? for all other nights we wash but once, but this night twice; all other we eat leavened or unleavened bread, but this only leavened; all other we eat flesh roasted, boiled, or baked, but this only roasted; all other nights we eat together lying or sitting, but this only lying along. And this posture they used as a token of rest and security which they enjoyed, far different from that at the eating of the passover in Egypt.

That this gesture was used when our Saviour eat the passover, is not conceived improbable from the words whereby the Evangelists express the same, that is, ἀναπιπτειν, ἀνακεῖσθαι, κατακεῖσθαι, ἀνακλιθῆναι, which terms do properly signify this gesture, in Aristotle, Athenæus, Euripides, Sophocles, and all humane authors; and the like we meet with in the paraphrastical expression of Nonnus.

Lastly, if it be not fully conceded, that this gesture was used at the passover, yet that it was observed at the last supper, seems almost incontrovertible: for at this feast or cenatory convention, learned men make more than one supper, or at least many parts thereof. The first was that legal one of the passover, or eating of the paschal lamb with bitter herbs and ceremonies described by Moses.‡ Of this it is said, "Then when the even was come, he sat down with the twelve."§ This is supposed when it is said, that the supper being ended, our Saviour arose, took a towel and washed the disciples' feet. The second was common and domestical, consisting of ordinary and undefined provisions; of this it may be said, that our Saviour took his garment, and sat down again, after he had washed the disciples' feet, and performed the preparative civilities of suppers; at this 'tis conceived the sop was given unto Judas, the original word implying some broth or decoction, not used at the passover. The third or latter part was eucharistical, which began at the breaking and blessing of the bread, according to that of Matthew, "And as they were eating, Jesus took bread and blessed it."

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* Matt. xxii. † Exod. xii. ‡ Matt. xxvi. § John xiii.

[6] *the consent of the Jews, &c.*] First added in 2nd edit.

Now although, at the passover or first supper, many have doubted this reclining posture, and some have affirmed that our Saviour stood, yet that he lay down at the other, the same men have acknowledged, as Chrysostom,* Theophylact, Austin, and many more. And if the tradition will hold, the position is unquestionable; for the very *triclinium* is to be seen at Rome, brought thither by Vespasian, and graphically set forth by Casalius.[7]

Thus may it properly be made out, what is delivered, John xiii; *Erat recumbens unus ex discipulus ejus in sinu Jesu quem diligebat;* "Now there was leaning on Jesus' bosom one of his disciples whom Jesus loved;" which gesture will not so well agree unto the position of sitting, but is natural, and cannot be avoided in the laws of accubation.[8] And the very same expression is to be found in Pliny, concerning the emperor Nerva and Veiento whom he favoured; *Cœnabat Nerva cum paucis, Veiento recumbebat propius atque*

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* *De Veterum Ritibus.*

[7] *Lastly, if it be not, &c.*] This and the next paragraph were first added in the 2nd edition.

[8] *which gesture, &c.*] I am not aware whether our author bad any authority for saying that "the back was advanced by some pillow or soft substance." If it was so, John could not very conveniently have leaned back upon the bosom of his master. It seems probable that each person lay at an acute angle with the line of the table, (as seems implied in the following quotation) in which case the head of John, as our author observes, p. 104, would have attained to about his master's bosom. It must also (as it seems to me) be supposed that the table was scarcely, if at all, higher than the level of the couch. I subjoin Godwin's description of the table, &c. "The table being placed in the middest, round about the table were certain beds, sometimes two, sometimes three, sometimes more, according to the number of the guests; upon these they lay down in manner as followeth: each bed contained three persons, sometimes more,—seldom or never *more* (qu. *fewer?)* If one lay upon the bed, then he rested the upper part of his body upon the left elbow, the lower part lying at length upon the bed: but if many lay on the bed, then the uppermost did lie at the bed's head, laying his feet behinde the second's back: in like manner the third or fourth did lye, each resting his head in the other's bosome. Thus John leaned on *Jesus' bosom.*" *Moses and Aaron*, p, 93, 4to. 1667.

etiam in sinu; and from this custom arose the word ἐπιστήθιος, that is, a near and bosom friend. And therefore Casaubon* justly rejecteth Theophylact;[9] who not considering the ancient manner of decumbency, imputed this gesture of the beloved disciple unto rusticity, or an act of incivility. And thus also, have some conceived it may be more plainly made out what is delivered of Mary Magdalen, that she "stood at Christ's feet behind him weeping, and began to wash his feet with tears, and did wipe them with the hairs of her head."† Which actions, if our Saviour sat, she could not perform standing, and had rather stood behind his back than at his feet. And therefore it is not allowable, what is observable in many pieces, and even of Raphael Urbin, wherein Mary Magdalen is pictured before our Saviour washing his feet on her knees, which will not consist with the strict description and letter of the text.

Now, whereas this position may seem to be discountenanced by our translation, which usually renders it sitting, it cannot have that illation: for the French and Italian translations, expressing neither position of session nor recubation, do only say that he placed himself at the table; and when ours expresseth the same by sitting, it is in relation unto our custom, time, and apprehension. The like upon occasion is not unusual: so when it is said, Luke iv, πτύξας τὸ βιβλίον, and the vulgate renders it, *cum plicâsset librum,* ours translateth it, he shut or closed the book; which is an expression proper unto the paginal books of our times, but not so agreeable unto volumes or rolling books, in use among the Jews, not only in elder times, but even unto this day. So when it is said, the Samaritan delivered unto the host twopence for the provision of the Levite, and when our Saviour agreed with the labourers for a penny a day, in strict translation it should be sevenpence halfpenny, and is not to be conceived our common penny, the sixtieth part of an ounce. For the word in the original is δηνάριον, in Latin, *denarius*, and with the Romans did value the eighth part of an ounce, which, after five shillings the ounce, amounteth unto sevenpence halfpenny of our money.

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* *Not. in Evang.*

† Luke vii.

[9] *Theophylact.*] Theophylact, bishop of Bulgary, lived 930th yeare of Christe, in which time the empire being translated into Germanye, and the maner of lying at all meales translated into the maner of sitting, which was most used among the northern nations, gave the bishop occasion to taxe the Jewish and Roman forme of lying as uncouth and uncivil: every nation preferring their owne customes, and condemning all other as barbarians.—*Wr.*

Lastly, whereas it might be conceived that they ate the passover, standing rather than sitting, or lying down, according to the institution, Exodus xii, "Thus shall you eat with your loins girded, your shoes on your feet, and your staff in your hand;" the Jews themselves reply, this was not required of succeeding generations, and was not observed but in the passover of Egypt. And so also many other injunctions were afterward omitted: as the taking up of the paschal lamb from the tenth day, the eating of it in their houses dispersed, the striking of the blood on the door-posts, and the eating thereof in haste;—solemnities and ceremonies primitively enjoined, afterward omitted; as was also this of station: for the occasion ceasing, and being in security, they applied themselves unto gestures in use among them.

Now in what order of recumbency Christ and the disciples were disposed, is not so easily determined. Casalius, from the Lateran *triclinium*, will tell us, that there being thirteen, five lay down in the first bed, five in the last, and three in the middle bed; and that our Saviour possessed the upper place thereof. That John lay in the same bed seems plain, because he leaned on our Saviour's bosom. That Peter made the third in that bed, conjecture is made, because he beckoned unto John, as being next him, to ask of Christ who it was that should betray him? That Judas was not far off, seems probable, not only because he dipped in the same dish, but because he was so near that our Saviour could hand the sop unto him.[1]

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[1] *Now in what order, &c.*] This paragraph was added in 2nd edition.

CHAPTER VII.

Of the Picture of our Saviour with Long Hair.

Another picture there is of our Saviour described with long hair,[2] according to the custom of the Jews, and his description sent by Lentulus unto the senate.[3] Wherein indeed the hand of the painter is not accusable, but the judgment of the common spectator: conceiving he observed this fashion of his hair, because he was a Nazarite; and confounding a Nazarite by vow, with those by birth or education.

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[2] *Another picture, &c.*] A very beautiful head of our Saviour has recently been engraved in *mezzotint*, by J. Rogers. It is a copy from a gem, said to have been executed by order of Tiberius Cæsar, and subsequently to Pope Innocent VIII by the emperor of the Turks as a ransom for his brother.

Another error has been noticed by some commentators in representing our Lord with a crown of long thorns, whereas it is supposed to have been made of the *acanthus*, or bears-foot, a prickly plant, very unlike a thorn. See Dr. Adam Clarke, *in loc.*

[3] *his description sent by Lentulus, &c.*] Or rather said to have been sent by Lentulus, &c.; for this letter is now known to have been a forgery. The supposed author was a Roman governor of Syria; of whom it was pretended that he was a follower of our Lord, and that he gave a description of his person in a letter to the senate. This was however obviously insupposeable at a period when the governors of provinces addressed the emperor, and no longer the senate; to say nothing of the style, which is by no means Augustan. The fact is, as has been remarked to me, that when publick opinion had been made up as to the probable appearance of our Lord's person, this letter comes out to settle the point. In No. 7026-4 of the Harleian MSS. is preserved a copy of this letter, on vellum, in the beautiful handwriting of the celebrated German dwarf. Math. Buchinger, which he sent to his patron, Lord Oxford. It contains also a portrait agreeing with the description given in the letter. This letter has been translated into English, and occurs, *Christ. Mag.* 1764, p. 455, and other places.

Perhaps the most celebrated of the reputed original portraits of the Redeemer, is that said to have been received by Abgarus, King of Edessa, mentioned by Evagrius. Eusebius gives a letter sent by the said Abgar to Jesus Christ, professing the conviction which the Redeemer's miracles had wrought in his mind of the divine character of our Lord, and entreating him to come to Edessa and cure a disease under which the king had long laboured;—together with our Lord's answer, declining to come, but promising to send a disciple to heal the king. For these letters see Hone's *Apocryphal New Testament.* In his *Every-day Book*, Jan. 13th, he gives a woodcut of the portrait. In the *London Literary Gazette* of Nov. 29, 1834, is a much better account of the circumstance, in a review of *Baron Hubboff's History of Armenia*, published by the Oriental Translation Society. I subjoin his account of the picture. "Abgar sent a painter to take the likeness of the Saviour, if he would not vouchsafe to visit Edessa. The painter made many vain attempts to draw a correct likeness of our Saviour. But Jesus, being willing to satisfy the desire of King Abgar, took a clean handkerchief and applied it to his countenance. In that same hour, by a miraculous power, his features and likeness were represented on the handkerchief." The picture thus miraculously produced, is said to have been the means of delivering the city from the siege laid to it by Chosroes, the Persian, 500 years afterwards. Thaddeus went to Edessa after Christ's ascension and healed Abgar.

See also *Mr. W. Huttman's Life of Christ*, where will be found a copious account of the portrait of Jesus Christ, published in prints, coins, &c. Mr. Huttman spells the name of the King of Edessa, *Agbar.*

The Nazarite by vow is declared, Numbers vi; and was to refrain three things, drinking of wine, cutting the hair, and approaching unto the dead; and such an one was Sampson. Now that our Saviour was a Nazarite after this kind; we have no reason to determine; for he drank wine, and was therefore called by the Pharisees, a wine-bibber; he approached also the dead, as when he raised from death Lazarus, and the daughter of Jairus.

The other Nazarite was a topical appellation, and appliable unto such as were born in Nazareth, a city of Galilee, and in the tribe of Napthali. Neither, if strictly taken, was our Saviour in this sense a Nazarite, for he was born in Bethlehem in the tribe of Judah; but might receive that name because he abode in that city, and was not only conceived therein, but there also passed the silent part of his life after his return from Egypt; as is delivered by Matthew, "And he came and dwelt in a city called Nazareth, that it might be fulfilled which was spoken by the prophet, he shall be called a Nazarene." Both which kinds of Nazarites, as they are distinguishable by Zain, and Tsade in the Hebrew, so in the Greek, by Alpha and Omega: for, as Jansenius observeth,* where the votary Nazarite is mentioned, it is written, Ναζαϱαῖος, as Levit. vi and Lament. iv. Where it is spoken of our Saviour, we read it, Ναζωϱαῖος, as in Matthew, Luke, and John; only Mark, who writ his gospel at Rome, did Latinize and wrote it Ναζαϱηνός.

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* *Jans. Concordia Evangelica.*

CHAPTER VIII.

Of the Picture of Abraham sacrificing Isaac.

In the picture of the immolation of Isaac, or Abraham sacrificing his son, Isaac is described as a little boy;[4] which notwithstanding is not consentaneous unto the authority of expositors, or the circumstance of the text. For therein it is delivered that Isaac carried on his back the wood for the sacrifice, which being an holocaust or burnt-offering to be consumed unto ashes, we cannot well conceive a burthen for a boy; but such a one unto Isaac, as that which it typified was unto Christ, that is, the wood or cross whereon he suffered, which was too heavy a load for his shoulders, and was fain to be relieved therein by Simon of Cyrene.[5]

Again he was so far from a boy, that he was a man grown, and at his full stature, if we believe Josephus, who placeth him in the last of adolescency, and makes him twenty-five years old. And whereas in the vulgar translation he is termed *puer*,[6] it must not be strictly apprehended, (for that age properly endeth in puberty, and extendeth but unto fourteen,) but respectively unto Abraham, who was at that time above six score. And therefore also herein he was not unlike unto him, who was after led dumb unto the slaughter, and commanded by others, who had legions at command; that is, in meekness and humble submission. For had he resisted, it had not been in the power of his aged parent to have enforced; and many at his years have performed such acts, as few besides at any. David was too strong for a lion and a bear; Pompey had deserved the name of Great; Alexander of the same cognomination was generalissimo of Greece; and Annibal, but one year after, succeeded Asdrubal in that memorable war against the Romans.

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[4] *as a little boy.*] More absurd representations have been made of this event. Bourgoanne notices a painting in Spain where Abraham is preparing to shoot Isaac with a pistol! Phil. Rohr, (*Pictor Errans,*) mentions one in which Abraham's weapon was a sword.

[5] *too heavy a load, &c.*] Some painters have accordingly represented Christ and Simon of Cyrene as both employed in carrying the cross.—some have supposed as Lipsius notices, that only a part (probably the transverse portion) of the cross was borne by our Lord.—*Lipsii Opera*, vol. iii, p. 658.

[6] *puer.*] In the Greeke the word [*παῖς*] is ambiguous and, as wee say, *polysemon*, signifying diverselye according to the subject to which it relates: as when it relates to a lord and master it signifies a servant, and is to bee soe translated: where itt relates to a father itt signifyes a sonne. The old translation is therefore herein faulty, which takes the word in the prime grammatical sense for a child, which is not always true. In the 4th cap. of the Acts, vers. 25. itt renders *Δαβὶδ τοῦ παιδός σου*, David pueri tui, and in the 27th *παῖδά σου Ἰησοῦν* puerum tuum Iesum, in both places absurdly: which Beza observed and corrected; rendering the first by the word servant, and the later by the word sonne rightlye and learnedlye.—*Wr.*

CHAPTER IX.

Of the Picture of Moses with Horns.

In many pieces, and some of ancient bibles, Moses is described with horns.[7] The same description we find in a silver medal; that is, upon one side Moses horned, and on the reverse the commandment against sculptile images. Which is conceived to be a coinage of some Jews, in derision of Christians, who first began that portrait.[8]

The ground of this absurdity was surely a mistake of the Hebrew text, in the history of Moses when he descended from the mount, upon the affinity of *kæren* and *karan* that, is, an horn, and to shine, which is one quality of horn. The vulgar translation conforming unto the former; *Ignorabat quòd cornuta esset facies ejus.** *Qui videbant faciem Mosis esse cornutam.* But the Chaldee paraphrase, translated by Paulus Fagius, hath otherwise expressed it: *Moses nesciebat quòd multus esset splendor gloriæ vultus ejus. Et viderunt*

* Exod. xxxiv, 29, 30.

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[7] *In many pieces, &c.*] And in Michael Angelo's Statue of Moses in St. Peter's at Rome.

[8] *The same description, &c.*] This sentence was first added in 2nd edition.

filii Israel quòd multa esset claritas gloriæ faciei Mosis.[9] The expression of the septuagint is as large, δεδόξασται ἡ ὄψις τοῦ χρώματος τοῦ προσώπου, *Glorificatus est aspectus cutis, seu coloris faciei.*

And this passage of the Old Testament is well explained by another of the New; wherein it is delivered, that "they could not stedfastly behold the face of Moses,"* διὰ τὴν δόξαν τοῦ προσώπου, that is, for the glory of his countenance. And surely the exposition of one text is best performed by another;[1] men vainly interposing their constructions, where the Scripture decideth the controversy. And therefore some have seemed too active in their expositions, who in the story of Rahab the harlot, have given notice that the word also signifieth an hostess; for in the epistle to the Hebrews, she is plainly termed πόρνη,[2] which signifies not an hostess, but a pecuniary and prostituting harlot† a term applied unto Lais by the Greeks, and distinguished from ἑταίρα, or *amica*, as may appear in the thirteenth of Athenæus.

And therefore more allowable is the translation of Tremellius, *quod splendida facta esset cutis faciei ejus;* or as Estius hath interpreted it, *facies ejus erat radiosa,* his face was radiant, and dispersing beams like many horns and cones about his head; which is also consonant unto the original signification, and yet observed in the pieces of our Saviour, and the Virgin Mary, who are commonly drawn with scintillations, or radiant halos about their head; which, after the French expression, are usually termed the glory.

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* 2 Cor. iii, 13. † What kind of harlot she was, read *Camar. de Vita Eliæ.*

[9] *But the Chaldee, &c.*] First added in 2nd edition.

[1] *another.*] This is a golden rule, as necessary as infallible.—*Wr.*

[2] *in the epistle, &c.*] Dr. Adam Clarke (on Joshua ii, 2,) admitting that πόρνη generally signifies a prostitute, contends nevertheless that it might not have been used in that sense here: he asks why the derived meaning of the word, from πορναω, to sell, may not have reference to *goods*, as well as to *person?* In that sense he observes the Chaldee Targum understood the word, and in their translation gave it accordingly the meaning of a *tavern keeper.* He concludes rather a long article by saying, "it is most likely that she was a single woman, or widow, who got her bread honestly, by keeping a house of entertainment for strangers." He proceeds however in this criticism, on a principle which he has elsewhere laid down, "that the writers of the New Testament scarcely ever quote the Old Testament, but from the Septuagint translation;" thus he contents himself with a rabbinical version of the LXX—and to that interpretation would bind the apostle.

Dr. Gill notices the rabbinical authorities in favor of the interpretation adopted by Dr. Clarke, but remarks that the Jews commonly take Rahab to be a harlot; and that generally speaking, in those times and countries such as kept public houses were prostitutes. He notices the Greek version and decidedly leans to the usual acceptation of the term.

Now if, besides this occasional mistake, any man shall contend a propriety in this picture, and that no injury is done unto truth by this description, because an horn is the hieroglyphick of authority, power, and dignity, and in this metaphor is often used in Scripture; the piece I confess in this acception is harmless and agreeable unto Moses; and, under such emblematical constructions, we find that Alexander the Great, and Attila king of the Huns, in ancient medals are described with horns. But if from the common mistake, or any solary consideration, we persist in this description, we vilify the mystery of the irradiation, and authorize a dangerous piece, conformable unto that of Jupiter Ammon; which was the sun, and therefore described with horns, as is delivered by Macrobius; *Hammonem quem Deum solem occidentem Libyes existimant, arietinis cornibus fingunt, quibus id animal valet, sicut radiis sol.* We herein also imitate the picture of Pan, and pagan emblem of nature. And if (as Macrobius and very good authors concede) Bacchus, (who is also described with horns,) be the same deity with the sun; and if (as Vossius well contendeth)* Moses and Bacchus were the same person; their descriptions must be relative, or the tauricornous picture of the one, perhaps the same with the other.[3]

* *De Origine Idololatriæ.*

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[3] *any solary consideration.*] *Solary,* 'relating to the sun.'—The Hebrew word used in this passage signifies *to shoot forth,* and may be applied perhaps to rays of light, as well as to horns. Bp. Taylor, in his *Holy Dying,* p. 17, describes the rising sun, as "peeping over the eastern hills, *thrusting out his golden horns, &c.*"—*Jeff.*

CHAPTER X.

Of the Scutcheons of the Twelve Tribes of Israel.

We will not pass over the scutcheons of the tribes of Israel, as they are usually described in the maps of Canaan and several other pieces; generally conceived to be the proper coats, and distinctive badges of their several tribes. So Reuben is conceived to bear three bars wave, Judah a lion rampant, Dan a serpent nowed, Simeon a sword impale, the point erected, &c.* The ground whereof is the last benediction of Jacob, wherein he respectively draweth comparisons from things here represented.

Now herein although we allow a considerable measure of truth, yet whether, as they are usually described, these were the proper cognizances, and coat-arms of the tribes; whether in this manner applied, and upon the grounds presumed, material doubts remain.

For first, they are not strictly made out from the prophetical blessing of Jacob; for Simeon and Levi have distinct coats, that is, a sword, and the two tables, yet are they by Jacob included in one prophecy; "Simeon and Levi are brethren, instruments of cruelty are in their habitations." So Joseph beareth an ox, whereof notwithstanding there is no mention in this prophecy; for therein it is said, "Joseph is a fruitful bough, even a fruitful bough by a well;" by which repetition are intimated the two tribes descending from him, Ephraim and Manasses; whereof notwithstanding Ephraim only beareth an ox. True it is, that many years after, in the benediction of Moses, it is said of Joseph, "His glory is like the firstlings of his bullock:" and so we may concede, what Vossius learnedly declareth, that the Ægyptians represented Joseph in the symbol of an ox;

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* Gen. xlix.

for thereby was best implied the dream of Pharaoh, which he interpreted, the benefit by agriculture, and provident provision of corn which he performed; and therefore did Serapis bear a bushel upon his head.

Again, if we take these two benedictions together, the resemblances are not appropriate, and Moses therein conforms not unto Jacob; for that which in the prophecy of Jacob is appropriated unto one, is in the blessing of Moses made common unto others. So, whereas Judah is compared unto a lion by Jacob, Judah is a lion's whelp, the same is applied unto Dan by Moses, "Dan is a lion's whelp, he shall leap from Bashan;" and also unto Gad, "he dwelleth as a lion."

Thirdly, if a lion were the proper coat of Judah, yet were it not probably a lion rampant, as it is commonly described, but rather couchant or dormant, as some heralds and rabbins do determine, according to the letter of the text, *Recumbens dormisti ut leo*, "He couched as a lion, and as a young lion, who shall rouse him?"

Lastly, when it is said, "Every man of the children of Israel shall pitch by his own standard, with the ensign of their father's house;"* upon enquiry what these standards and ensigns were, there is no small incertainty, and men conform not unto the prophecy of Jacob. Christian expositors are fain herein to rely upon the rabbins, who notwithstanding are various in their traditions, and confirm not these common descriptions. For as for inferior ensigns, either of particular bands or houses, they determine nothing at all; and of the four principal or legionary standards, that is, of Judah, Reuben, Ephraim, and Dan, (under every one whereof marched three tribes,) they explain them very variously. Jonathan, who compiled the *Targum*, conceives the colours of these banners to answer the precious stones in the breast-plate, and upon which the names of the tribes were engraven.† So the standard for the camp of Judah was of three colours, according unto the stones, chalcedony, sapphire, and sardonyx; and therein were expressed the names of the three tribes, Judah, Issachar, and Zabulon; and in the midst thereof was written, "Rise up, Lord, and let thy enemies be scattered; and let them that hate thee, flee before thee:"* in it was also the portrait of a lion. The standard of Reuben was also of three colours, sardine, topaz, and amethyst; therein were expressed the names of Reuben, Simeon, and Gad, in the midst was written, "Hear, O Israel, the Lord our God, the Lord is one;"† therein was also the portraiture of a hart. But Abenezra and others, beside the colours of the field, do set down other charges, in Reuben's the form of a man or mandrake, in that of Judah a lion, in Ephraim's an ox, in Dan's the figure of an eagle.

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* Num. ii.

† The like also P. Fagius upon the Targum or Chaldee Paraphrase of Onkelos, Num. i.

And thus indeed the four figures in the banners of the principal squadrons of Israel, are answerable unto the cherubims in the vision of Ezekiel;‡ every one carrying the form of all these. As for the likeness of their faces, they four had the likeness of the face of a man, and the face of a lion on the right side, and they four had the face of an ox on the left side, they four had also the face of an eagle. And conformable hereunto the pictures of the evangelists (whose gospels are the Christian banners) are set forth with the addition of a man or angel, an ox, a lion, and an eagle. And these symbolically represent the office of angels and ministers of God's will, in whom is required understanding as in a man, courage and vivacity as in the lion, service and ministerial officiousness as in the ox, expedition or celerity of execution as in the eagle.[4]

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* Num. x. † Deut. vi. ‡ Ezek. i.

[4] *eagle.*] The reasons which the fathers give of these emblems is excellent and proper. St. Matthew insists on those prophecyes in Christ, and therefore hath an angel, as itt were revealing those things to him. St. Marke insists most upon his workes of wonder and miracles, and therefore hathe the lyon of Judah by him. St. Luke is most copious in those storyes which set forthe his passive obedience, and therefore hathe the beast of sacrifice by him. And lastly, St. John, whose gospel sores like the eagle up to heaven, and expresses the divinity of Christe in such a sublime manner above all the rest, hath therefore that bird set by him. They were shortly, but excellently expresst by these four emblems at the pedestall of Prince Henrye's pillar, each of them in a scroll uttering these four wordes, which make up a verse. *Expecto*, by the angel, *impavidus*, by the lion, *patienter*, by the oxe, *dum renovabor*, by the eagle.—*Wr.*

The dean's exposé reminds us of that of Victorinus, Bishop of Petau, mentioned by Dr. Clarke, (in his *Concise View of the Succession of Sacred Literature*, &c. p. 199, vol. i.) In his Comment on the 4th chap. of Rev. *v.* 6, 7, the bishop

From hence, therefore, we may observe that these descriptions, the most authentic of any, are neither agreeable unto one another, nor unto the scutcheons in question. For though they agree in Ephraim and Judah, that is, the ox and the lion, yet do they differ in those of Dan and Reuben, as far as an eagle is different from a serpent, and the figure of a man, hart, or mandrake, from three bars wave. Wherein notwithstanding we rather declare the incertainty of arms in this particular,[5] than any way question their antiquity; for hereof more ancient examples there are than the scutcheons of the tribes, if Osyris, Mizraim, or Jupiter the Just, were the son of Cham; for of his two sons, as Diodorus delivereth,

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remarks:—"The four living creatures are the four gospels. The *lion* denotes MARK, in whom the voice of a *lion*, roaring in the wilderness, is heard; *the voice of one that crieth in the wilderness, &c.* MATTHEW, who has the resemblance of a *man*, endeavours to shew us the family of Mary, from whom Christ took flesh; he speakes of him as a man; *the book of the generations, &c.* LUKE, who relates the priesthood of Zecharias offering sacrifice for the people, &c. has the resemblance of a *calf.* JOHN, like an eagle with outstretched wings soaring aloft, speaks concerning the WORD OF GOD, &c." But here we find various opinions; for while St. Jerome, in his Commentary on Matthew, and Gregory in his 4th Homily on Ezekiel, give the same version as Victorinus, St. Augustine assigns the man to Mark, and the lion to Matthew. And the dean, in the preceding note, follows those who regard Matthew's man to have been an angel.

[5] *the incertainty of arms in this particular.*] Not a few of our antiquarian writers, theologians, as well as heralds, have been anxious to trace the origin of heraldry to the Bible. Bishop Hall, in his *Impresse of God*, says, "If the testament of the patriarchs had as much credit as antiquity, all the patriarchs had their armes assigned them by Jacob: Judah a *lyon*, Dan *a serpent*, Nepthali *an hinde*, Benjamin *a wolf*, Joseph *a bough*, and so of the rest." *Works*, fol. 1648, p. 406, E.

In Mr. Jefferson's copy occurs the following MS. note. "Sir John Prestwick, in his MS. history of the noble family of Chichester, derives the practice of heraldry from Gen. i, 14. 'Let them be for *signs*,'—which he refers to *heraldic signs*."

Sylvanus Morgan begins with the creation; "deducing from the principles of nature" his *Sphere of Gentry*, which he divides into four books, the first entitled Adam's shield, or nobility native; the 2nd, Joseph's coat, or nobility dative, &c. In the latter he gives a curiously engraven representation, and a description of Joseph's whole achievement; his coat being *per fesse imbatled Argent and Gules out of a Well a Tree growing Proper, ensigned with a Helmet of a Knight thereon, out of a crown Mural Gules, a Wheatsheaf Or;* his Mantles being of three sorts: the outmost being that of the *gown*, being cloth of gold lined with *Ermine, Erminees, Erminois*, and *Erminets*; the next being that of the *Cloak*, accompanying him in all his adversities, being lined *Vaire, Vairy*, and *Cuppa;* the outside *Purple*: the third being the *Mantle* for his funeral, being mantled *Sable*, lined *Argent;* his Motto, *Nec Sorti nec Fato:* having his wife's armes in an In-Escutcheon, she being the daughter and heir of Potiphar, Prince and Priest of *On*: his Sword and Girdle on the left side. Thus he is a publick person, conferring honours by *Nobility Dative* to his brethren!!"—*Sphere of Gentry*, book ii, p. 72. Alas! for poor Joseph's coat of many colours, to be thus blazoned!

Master Morgan, in setting forth the Camp of Israel, seemeth not less exactly informed as to the precise bearing of each tribe. (*Ibid.* p. 78.)

the one for his device gave a dog, the other a wolf. And, beside the shield of Achilles, and many ancient Greeks, if we receive the conjecture of Vossius, that the crow upon Corvinus' head was but the figure of that animal upon his helmet, it is an example of antiquity among the Romans.

But more widely must we walk if we follow the doctrine of the Cabalists, who in each of the four banners inscribe a letter of the tetragrammaton, or quadriliteral name of God; and mysterizing their ensigns, do make the particular ones of the twelve tribes, accommodable unto the twelve signs in the zodiack, and twelve months in the year; but the tetrarchical or general banners of Judah, Reuben, Ephraim, and Dan,[5]

JUDAH bare Gules, a *Lyon* couchant or, East.
  ZABULUN'S black *Ship 's* like to a man of warr.
  ISSACHAR'S *Asse* between two burthens girt,
As DAN'S *Sly Snake* lies in a field of vert. North.
  ASHUR with azure a *Cup of Gold* sustains,
  And NEPTHALI'S *Hind* trips o'er the flowry plains.
EPHRAIM'S strong *Ox* lyes with the couchant *Hart*, West.
  MANASSEH'S *Tree* its branches doth impart.
  BENJAMIN'S *Wolfe* in the field gules resides,
REUBEN'S field argent and blew *Barrs Waved* glides. South.
  SIMEON doth beare the *Sword*: and in that manner
  GAD having pitched his Tent sets up his *Banner*.

Unfortunately, however, as our author shrewdly remarks, the "descriptions" of the *conoscenti* are not "agreeable unto one another." Andrew Favine, in his *Theater of Honor and Knighthood*, fol. 1623, p. 4, perfectly agrees with Morgan as to the antiquity of *armes and blazons*, which he does not hesitate to say "have been in use from the creation of the world." But when he descends to particulars, their disagreement is instantly apparent. To say nothing of *tinctures*, half the *bearings* are different. Favine makes Judah's lyon *rampant* instead of *couchant*; Reuben bears an *armed man*, instead of the *bars wavy*; in Ephraim's standard he omits the *hart*; to Simeon he assigns *two* swords instead of *one*; to Gad a *sword* instead of a *banner*; (though I suspect the *description* of Morgan intended a sword, but the artist, misunderstanding his doggrel, has drawn a banner;) to Manasseh a *crowned sceptre* instead of a *tree*; and to Dan, *ears of corn* instead of a *cup of gold*.

[5] *do make the particular ones, &c.*] Browne most probably alludes to the opinion of Kircher on this point. But several other writers have taken pains to establish the same theory. General Vallancy, in his chapter on the astronomy of the ancient Irish; i. e. *Collectanea de Rebus Hibernicis*, vol. VI, ch. ix,) proposes a scheme, which Dr. Hales has adopted, with some alterations, in his *Chronology*, vol. ii. At still greater length has Sir Wm. Drummond investigated the subject, in a paper on Gen. xlix, in the *Classical Journal*, vol. iii, p. 387. But here again the authorities are at issue. Sir William thus arranges his zodiack:—Reuben, *Aquarius*; Simeon and Levi, *Pisces*; Judah, *Leo*; Zebulun, *Capricorn*; Issachar, *Cancer*; Dan, *Scorpius*; Gad, *Aries*; Asher, *Libra*; Naphthali, *Virgo*; Joseph, *Taurus*; Benjamin, *Gemini*; Manasseh, *Sagittarius*. General Vallancy on the other hand assigns to Simeon and Levi the sign *Gemini*, to Zebulon, *Cancer*; to Issacher, *Taurus*; to Naphthali, *Aries*; to Joseph, *Virgo*; and to Benjamin, *Capricorn*; omitting Gad, Asher, and Manasseh. Dr. Hales also omits Manasseh, but places Gad in *Pisres*, Asher in *Virgo*, and Joseph in *Sagittarius*. There are other variations.

unto the signs of Aries, Cancer, Libra, and Capricornus;* that is, the four cardinal parts of the zodiack and seasons of the year.[6]

CHAPTER XI.

Of the Pictures of the Sybils.

THE pictures of the sybils are very common, and for their prophecies of Christ in high esteem with Christians; described commonly with youthful faces, and in a defined number. Common pieces making twelve, and many precisely ten; observing therein the account of Varro, that is, *Sibylla Delphica, Erythræa, Samia, Cumana,*[1] *Cumæa,* or *Cimmeria, Hellespontiaca, Libyca, Phrygia, Tiburtina, Persica.* In which enumeration I perceive learned men are not satisfied, and many conclude an irreconcilable incertainty; some making more, others fewer, and not this certain number. For Suidas, though he affirm that in divers ages there were ten, yet the same denomination he affordeth unto more; Boysardus, in his tract of *Divination*, hath set forth the icons of these ten, yet addeth two others, *Epirotica* and *Ægyptia;* and some affirm that prophesying women were generally named sibyls.

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* *Recius de Cœlesti Agricultura,* lib iv.

Some have given Levi *an open bough.* The banner of Gad, which in Morgan bears a lion, is also given *green,* and without any device. Reuben has sometimes a mandrake, instead of the *bars* or the *armed man.* Dan's serpent is sometimes *nowed,* sometimes *curled.* Manasseh has sometimes an ox, and Ephraim an unicorn or a bough. But enough of this. Further examination of the various fanciful speculations of critics and antiquaries, whether heraldic or astronomical, will only confirm our author's conclusion, "of the incertainty of arms," and the irreconcilable discrepancy of those who have written on the subjects of the present chapter;—*quot homines, tot sententiæ*; and how should it be otherwise in a case where nothing can be known, and any thing may therefore be conjectured? Before I close this note, however, I must be allowed to protest against Sir Wm. Drummond's mode of conducting his enquiry. With a view of enhancing the probability of his favourite theory, he commences by endeavouring to prove that the patriarchs were tinctured with polytheism, and addicted to divination and astrology; and arrives, in the space of half a dozen sentences, at the absurd and revolting conclusion, that Jacob was an astrologer, who believed himself under the influence of the planet Saturn! To what lengths will not some men go in support of a favourite hypothesis, however fanciful! What would be our feelings of indignation against him who should demolish the classical remains of Grecian antiquity, to make way for the vagaries of modern architecture? Less deep by far, than when we are asked to sacrifice the hallowed and beautiful simplicity of Scripture narrative to the base figments of rabbinical tradition, or the gratuitous assumptions of such critics as Sir Wm. Drummond.

[6] *But more widely, &c.*] First added in 2nd edition.

Others make them fewer: Martianus Capella two; Pliny and Solinus three; Ælian four; and Salmasius in effect but seven. For discoursing hereof in his *Plinian Exercitations*, he thus determineth; *Ridere licet hodiernos pictores, qui tabulas proponunt Cumanæ, Cumææ et Erythrææ, quasi trium diversarum sibyllarum; cùm una eademque fuerit Cumana, Cumæa, et Erythræa, ex plurium et doctissimorum authorum sententia.* Boysardus gives us leave to opinion there was no more than one; for so doth he conclude, *In tanta scriptorum varietate liberum relinquimus lectori credere, an una et eadem in diversis regionibus peregrinata, cognomen sortita sit ab iis locis ubi oracula reddidisse comperitur, an plures extiterint:* and therefore not discovering a resolution of their number from pens of the best writers, we have no reason to determine the same from the hand and pencil of painters.

As touching their age, that they are generally described as young women, history will not allow; for the sibyl whereof Virgil speaketh, is termed by him *longæva sacerdos*, and Servius, in his comment, amplifieth the same. The other, that sold the books unto Tarquin, and whose history is plainer than any, by Livy and Gellius is termed *anus;* that is, properly no woman of ordinary age, but full of years, and in the days of dotage, according to the etymology of Festus,* and consonant unto the history, wherein it is said, that Tarquin thought she doated with old age. Which duly perpended, the *licentia pictoria* is very large; with the same reason they may delineate old Nestor like Adonis, Hecuba with Helen's face, and time with Absolom's head. But this absurdity that eminent artist, Michael Angelo, hath avoided, in the pictures of the Cumean and Persian sybils, as they stand described from the printed sculptures of Adam Mantuanus.[7]

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* *Anus, quasi* 'Ανοῦς, *sine mente.*

[7] *Mantuanus.*] On the subject of this chapter, the origin of the Sybils, see the Abbé Pluche, *Hist. du Ciel*, Vol. i, p. 263.—*Jeff.*

CHAPTER XII.

Of the Picture describing the death of Cleopatra.

THE picture concerning the death of Cleopatra, with two asps or venomous serpents unto her arms or breasts, or both, requires consideration:[8] for therein (beside that this variety is not excusable) the thing itself is questionable; nor is it in-

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[8] *The picture, &c.*] "An ancient encaustic pictute of Cleopatra has lately been discovered, and detatched from a wall, in which it had been hidden for centuries, and supposed to be a real portrait, painted by a Greek artist. It is done on blue slate. The colouring is fresh, very like life. She is represented applying the aspic to her bosom." *Extract from a Letter from Paris; Phil. Gaz.* Nov. 27, 1822.—*Jeff.*

The preceding notice refers in all probability to the painting which was afterwards brought over to England by its possessor, Signor Micheli, who valued it at £10,000. He caused an engraving of it to be executed, which I have had an opportunity of seeing, in the hands of R. R. Reinagle, Esq. R. A. by whose kindness I have also been favoured with the following very full and interesting history and description of this curious work of art, in compliance with my request:

"17, Fitzroy Square, Dec. 2, 1834.

"Sir,—The painting was done on a species of black slaty marble—was broken in two or three places. It was said by the Chev. Micheli, the proprietor, who brought it from Florence to this country, that it had been found in the recesses of a great wine cellar, where other fragments of antiquity had been deposited. That it was in a very thick case of wood nearly mouldered away. That it got into a broker's hands, by the major domo of the house or palace where it was discovered, having sold a parcel of insignificant lumber, so called, in which this painting was found. It was generally incrusted with a sort of tartar and decomposed varnish, which was cleared off by certain eminent chemists of Florence. Parts of the colouring were scraped off and analysed by three or four persons. Formal attestations were made by them before the constituted authorities, and the documents had the stamps of authorized bodies and signatures. The colours were found to be all mineral, and few in number. The red was the *synopia* of Greece; another laky red, put over the red mantle Cleopatra wore, was of a nature not discovered;—It had the look of Venetian glazed red lake, of the crimson colour;—the white was a *calx*, but I forget of what nature;—the yellow was of the nature of Naples yellow—it seemed a vitrification;—there was also yellow ochre;—the black was charcoal. The green curtain was esteemed *terra verd* of Greece, passed over with some unknown enriching yellow colour. The hair was deep auburn colour, and might be mangenese;—the curls, elaborately made out, were finished hair by hair, with vivid curved lines on the lighted parts, of the bright yellow golden colour. The necklace consisted of various stones set in gold: the amulet was of gold, and a chain twice or thrice round her right wrist. She wore a crown with radiating points, and jewels between each;—also a forehead jewel, with a large pearl at the four corners, worn lozengeways on her forehead; part of her front hair was plaited, and two plaits were brought round the neck, and tied in a knot of the hair;—the red mantle was fastened on both shoulders—no linen was seen. She held the asp in her left hand; it was of a green colour, and rather large. Its head was fanciful, and partook of the disputably certain what manner of death she died.[9] Plutarch, in the life of Anthony, plainly delivereth, that no man knew the manner of her death; for some affirmed she perished by poison, which she always carried in a little hollow comb, and wore it in her hair. Beside, there were never any asps discovered in the place of her death, although two of her maids perished also with her; only it was said, two small and almost insensible pricks were found upon her arm; which was all the ground that Cæsar had to presume the manner of

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whims of sculptors both ancient and modern, resembling the knobhead and pouting mouth of the dolphin. While writhing, it seems as if preparing to give a second bite; two minute indents of the fangs were imprinted on the inside of the left breast, and a drop or two of blood flowed. Cleopatra was looking upwards; a shuddering expression from quivering lips, and heavy tears falling down her cheeks, gave the countenance a singular effect; her right hand was falling from the wrist as if life were departing and convulsion commencing. The composition of the figure was erect and judiciously disposed for the confined space it was placed in. The proportion of the picture was about two feet nine inches, and narrow, like that sized canvass which artists in England call a *kitcat*. On decomposing the colours, the learned men of Florence and of Paris were fully persuaded that it was an encaustic painting; wax and a resinous gum were distinctly separated. The whole picture presented the strongest signs of antiquity; but whether it is a real antique, remains still a doubt on many minds. It was attributed to Timomachus, an artist of great eminence and a traveller, who lived at the court of Augustus Cæsar. He followed the encaustic style of Apelles, and with him died or faded away that difficult art. The picture was painted (as is surmised) by the above-named Greek artist, from memory (for he had seen Cleopatra often,) to supply her place in the triumph of Augustus, when he celebrated his Egyptian victories over Anthony and Cleopatra. She, by her desperate resolution, deprived him of the honour of exposing her person to the gaze of the Roman people. The picture was said to have been taken, as a precious relic of art, by Constantine to Byzantium, afterwards named Constantinople, and restored to Rome on the return of his successors to the ancient seat of government. Among the very many things in and relating to art, this picture was overlooked, and remained in the deep dark recesses of the wine cellar. The Chevalier Micheli carried it back to Italy, when he left England, about two years ago. What has become of it since I know not.

"The title of the print is as follows:—'Cleopatra, Queen of Egypt. The original of which this present plate is a faithful representation, is the only known and hitherto discovered specimen of ancient Greek painting. It has given rise to the most learned enquiries both in Italy and France, and been universally admitted by cognoscenti, assisted by actual analysis of the colours, to be an encaustic painting. The picture is attributed to Timomachus, and supposed to have been painted by him for his friend and patron, Augustus Cæsar, 33 years before Christ, to adorn the triumph that celebrated his Egyptian victories over Anthony and Cleopatra, as a substitute for the beautiful original, of whom he was disappointed by the heroic death she inflicted on herself. This plate is dedicated to the virtuosi and lovers of refined art in the British empire by the author, who is also the possessor of this inestimable relic of Grecian art.'

"I remain your very obedient servant,
"R. R. REINAGLE."

"To Mr. S. Wilkin."

[9] *the thing itself, &c.*] The painters have however this justification, that they follow authorities. "Cæsar, from the two small pricks presumed the manner of her death." Suetonius and Eutropius mention one asp; Horace, Virgil, Florus, and Propertius, two.—*Ross* and *Jeff.*

her death. Galen, who was contemporary unto Plutarch, delivereth two ways of her death; that she killed herself by the bite of an asp, or bit an hole in her arm and poured poison therein. Strabo, that lived before them both, hath also two opinions; that she died by the bite of an asp, or else a poisonous ointment.

We might question the length of the asps, which are sometimes described exceeding short; whereas the *chersæa*, or land-asp, which most conceive she used, is above four cubits long. Their number is not unquestionable; for whereas there are generally two described, Augustus (as Plutarch relateth) did carry in his triumph the image of Cleopatra, but with one asp unto her arm. As for the two pricks, or little spots in her arm, they infer not their plurality; for like the viper the asp hath two teeth, whereby it left this impression, or double puncture behind it.

And lastly, we might question the place; for some apply them unto her breast, which notwithstanding will not consist with the history, and Petrus Victorius hath well observed the same. But herein the mistake was easy, it being the custom in capital malefactors to apply them unto the breast; as the author *De Theriaca ad Pisonem*, an eye-witness hereof in Alexandria, where Cleopatra died, determineth; "I beheld," saith he, "in Alexandria, how suddenly these serpents bereave a man of life; for when any one is condemned to this kind of death, if they intend to use him favourably, that is, to dispatch him suddenly, they fasten an asp unto his breast, and bidding him walk about, he presently perisheth thereby."

CHAPTER XIII.

Of the Pictures of the Nine Worthies.

The pictures of the nine worthies[1] are not unquestionable, and to critical spectators may seem to contain sundry improprieties. Some will enquire why Alexander the Great is described upon an elephant:[2] for we do not find he used that animal in his armies, much less in his own person; but his horse is famous in history, and its name alive to this day.[3] Beside, he fought but one remarkable battle wherein there were any elephants, and that was with Porus, king of India, in which notwithstanding, as Curtius, Arrianus, and Plutarch report, he was on horseback himself. And if because he fought against elephants he is with propriety set upon their backs, with no less (or greater) reason is the same description agreeable unto Judas Maccabeus, as may be observed from the history of the Maccabees, and also unto Julius Cæsar, whose triumph was honoured with captive elephants, as may be observed in the order thereof set forth by Jacobus Laurus. * And if also we should admit this description upon an elephant, yet were not the manner thereof unquestionable, that is, in his ruling the beast alone; for beside the champion upon their back, there was also a guide

* *In Splendore Urbis Antiquæ.*

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[1] *the nine worthies,*] Namely, Joshua, Gideon, Sampson, David, Judas Maccabæus, Alexander the Great, Julius Cæsar, Charlemagne, and Godfrey of Boulogne.

[2] *Some will enquire, &c.*] Ross suggests that "this picture hath reference to that story of the elephant in Philostratus (lib. i, c. 61,) which from Alexander to Tiberius, lived three hundred and fifty years. This huge elephant, Alexander, after he had overcome Porus, dedicated to the sun, in these words, Ἀλέξανδρος ὁ Διὸς τὸν Αἴαντα τῷ ἡλίῳ; for he gave to this elephant the name of Ajax, and the inhabitants so honoured this beast, that they beset him round with garlands and ribbons.—*Arcana*, p. 160.

[3] *but his horse, &c.*] There is an engraving of Alexander on *Bucephalus*, from an antique statue, without stirrups, in the *Youth's Magazine*, for May, 1820. —*Jeff.*

or ruler which sat more forward to command or guide the beast. Thus did King Porus ride when he was overthrown by Alexander; and thus are also the towered elephants described, Maccabees ii, 6. Upon the beasts[4] there were strong towers of wood, which covered every one of them, and were girt fast unto them by devices; there were also upon every one of them thirty-two strong men, beside the Indian that ruled them.

Others will demand, not only why Alexander upon an elephant, but Hector upon an horse; whereas his manner of fighting, or presenting himself in battle, was in a chariot,[5] as did the other noble Trojans, who, as Pliny affirmeth, were the first inventors thereof. The same way of fight is testified by Diodorus, and thus delivered by Sir Walter Raleigh. "Of the vulgar, little reckoning was made, for they fought all on foot, slightly armed, and commonly followed the success of their captains, who rode not upon horses, but in chariots drawn by two or three horses." And this was also the ancient way of fight among the Britons, as is delivered by Diodorus, Cæsar, and Tacitus; and there want not some who have taken advantage hereof, and made it one argument of their original from Troy.

Lastly, by any man versed in antiquity, the question can hardly be avoided, why the horses of these worthies, especially of Cæsar, are described with the furniture of great saddles and stirrups; for saddles, largely taken, though some defence there may be, yet that they had not the use of stirrups, seemeth of lesser doubt; as Pancirollus hath observed, as Polydore Virgil and Petrus Victorius have confirmed,* expressly discoursing hereon; as is observable from Pliny, and cannot escape our eyes in the ancient monuments, medals, and triumphant arches of the Romans. Nor is there any ancient classical word in Latin to express them. For *staphia, stapes,* or *stapeda,* is not to be found in authors of this antiquity. And divers words which may be urged of this signification, are either later, or signified not thus much in the time of Cæsar. And therefore, as Lipsius observeth, lest a thing of common use should want a common word, Franciscus Philelphus named them *stapedas,* and Bodinus Subiecus, *pedanos.* And whereas the name might promise some antiquity, because among the three small bones in the auditory organ, by physicians termed *incus, malleus,* and *stapes,* one thereof from some resemblance doth bear this name; these bones were not observed, much less named by Hippocrates, Galen, or any ancient physician. But as Laurentius observeth, concerning the invention of the *stapes* or stirrup-bone, there is some contention between Columbus and Ingrassias; the one of Sicilia, the other of Cremona, and both within the compass of this century.

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* *De Inventione Rerum, Variæ Lectiones.*

[4] *upon the beasts.*] Yf wee reckon but 300lb weight for every man and his armour and weapons (which is the lowest proportion) and allowing for the tower and harnessing, but 5 or 600lb more, the burthen of each elephant cannot be esteemed less than 10,100lb weight; which is a thing almost incredible: for 4,000lb or 5,000lb is the greatest loade that 8 or 10 strong horse are usually put to drawe.—*Wr.*

[5] *chariot.*] The use of chariots and (in warr) of iron, and in private travayle of lighter substance is as olde as Jacob, as appeares Gen. xlv, 27. And in Gen. xiv, 7, the text sayes, that Pharoah had in his army 600 chosen chariots, besides all the chariots of Ægypt. Now the former of these two storyes was 500 yeares before the Trojan war, and the later 300.—*Wr.*

The same is also deducible from very approved authors. Polybius, speaking of the way which Annibal marched into Italy, useth the word βεβημάτισται, that is, saith Petrus Victorius, it was stored with devices for men to get upon their horses, which assents were termed *bemata,* and in the life of Caius Gracchus, Plutarch expresseth as much. For endeavouring to ingratiate himself with the people, besides the placing of stones at every mile's end, he made at nearer distances certain elevated places and scalary ascents, that by the help thereof they might with better ease ascend or mount their horses. Now if we demand how cavaliers, then destitute of stirrups, did usually mount their horses, as Lipsius informeth, the unable and softer sort of men had their ἀναβοχεῖς, or *stratores,* which helped them upon horseback, as in the practice of Crassus, in Plutarch, and Caracalla, in Spartianus, and the later example of Valentinianus, who because his horse rose before, that he could not be settled on his back, cut off the right hand of his strator. But how the active and hardy persons mounted, Vegetius[*] resolves us, that they used to vault or leap up, and therefore they had wooden horses in their houses and abroad, that thereby young men might enable themselves in this action; wherein by instruction and practice they grew so perfect, that they could vault up on the right or left, and that with their sword in hand, according to that of Virgil,

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[*] *De re Milit.*

> Poscit equos atque arma simul, sultúque superbus
> Emicat.

And again,

> Infrænant alii currus, et corpora saltu
> Injiciunt in equos.

So Julius Pollux adviseth to teach horses to incline, dimit, and bow down their bodies, that their riders may with better ease ascend them. And thus may it more causally be made out what Hippocrates affirmeth of the Scythians, that using continual riding they were generally molested with the *sciatica* or hip gout. Or what Suetonius delivereth of Germanicus, that he had slender legs, but increased them by riding after meals; that is, the humours descending upon their pendulosity, they having no support or suppedaneous stability.[6]

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[6] *Or what Suetonius, &c.*] Hippocrates observes, that the Scythians, who were much on horseback, were troubled with defluxions and swellings in their legs, occasioned by their dependent posture, and the want of something to sustain their feet. Had stirrups been known, this inconvenience could not have been urged, and on this fact, together with other arguments, Berenger much relies in his opinion that stirrups were not known to the ancients. See his *History and Art of Horsemanship*, 2 vols. 4to. Montfaucon attributes this ignorance to the absence of saddles, and to the impossibility of attaching stirrups to the horsecloths, or *ephippia*, which were anciently used for saddles.

Beckman, in his chapter on *stirrups*, (*History of Inventions and Discoveries*, vol. ii, 270,) among other authorities, refers to the present chapter *in the French translation*. Nothing, he says, resembling stirrups, remains in ancient works of art or coins. Xenophon, in his chapter on horsemanship, makes no mention of them. Stone mounting-steps, he observes, were not only used among the Romans, but are still to be found even in England. Victorious generals used to compel the vanquished even of the highest rank, to stoop that they might mount by stepping on their backs. He mentions some spurious inscriptions and coins which exhibit the stirrup. He names Mauritius as the first writer who has expressly mentioned it, in the sixth century, and from Eustathius it appears that even in the 12th century, the use of stirrups had not become common.

"Abdallah's friend found him with his foot in the stirrup, just mounting his camel." *Sale's Koran*, *Prelim. Disc.* p. 29. Abdallah lived in the sixth century. —*Jeff.*

"*Stirops.* From the old English *astige* or *stighe*, to ascend or mount up, and *ropes;* being first devised with cords or *ropes*, before they were made with leather and iron fastened to it." *Verstegan*, p. 209. "To have *styed* up from the very centre of the earth." *Bishop Hall's Contemplations on the Ascension*, vol. ii, p. 285. *Hinc Stigh-ropes.—Jeff.*

Now if any shall say that these are petty errors and minor lapses, not considerably injurious unto truth, yet is it neither reasonable nor safe to contemn inferior falsities, but rather as between falsehood and truth there is no medium, so should they be maintained in their distances; nor the contagion of the one approach the sincerity of the other.

CHAPTER XIV.

Of the Picture of Jephthah Sacrificing his Daughter.

THE hand of the painter confidently setteth forth the picture of Jephthah in the posture of Abraham, sacrificing his only daughter. Thus is it commonly received, and hath had the attest of many worthy writers. Notwithstanding upon enquiry we we find the matter doubtful, and many upon probable grounds to have been of another opinion; conceiving in this oblation not a natural but a civil kind of death, and a separation only unto the Lord. For that he pursued not his vow unto a literal oblation, there want not arguments both from the text and reason.[7]

According to Sir John Carr's "*Caledonian Sketches,*" in his account of a male equipage, that island is not yet "a land of bridles and saddles."—*Mo. Rev. Sep.* 1809.—*Jeff.*

[7] *For that he pursued not, &c.*] The observations of Dr. Adam Clarke on this very interesting question, are so spirited and satisfactory, that I must insert them. Judg. xi, 31—"The translation of which, according to the most accurate Hebrew scholars, is this —'I will consecrate it to the Lord; OR, I will offer it for a burnt-offering:' that is, 'if it be a thing fit for *a burnt-offering*, it shall be made one: if fit *for the service of God*, it shall be consecrated to him.' That conditions of this kind must have been implied in the vow is evident enough; to have been made without them it must have been the vow of a *heathen* or a *madman*. If a *dog* had met him, this could not have been made a *burnt-offering:* and if his neighbour's or friend's *wife, son,* or *daughter*, &c. had been returning from a visit to his family, his vow gave him no right over them. Besides, *human sacrifices* were ever an abomination to the Lord; and this was one of the grand reasons why God drave out the Canaanites, &c. because they offered their sons and daughters to Moloch, in the fire; i.e. made burnt-offerings of them, as is generally supposed. That Jephthah was a deeply pious man, appears in the whole of his conduct; and that he was well acquainted with the *law of Moses,*—which prohibited such sacrifices, and stated what was to be offered in sacrifice,—is evident enough from his expostulation with the king and people of Ammon, verse 14 to 27. Therefore it must be granted that he never made that rash vow which several suppose he did; nor was he capable, if he had, of executing it in that most shocking manner which some Christian

For first, it is evident that she deplored her virginity, and not her death; "Let me go up and down the mountains and bewail my virginity, I and my fellows."

Secondly, when it is said, that Jephthah did unto her according unto his vow, it is immediately subjoined, *et non cognovit virum*, and she knew no man; which, as immediate in words, was probably most near in sense unto the vow.

Thirdly it is said in the text, that the daughters of Israel went yearly to talk with the daughter of Jephthah four days in the year; which had she been sacrificed they could not have done: for whereas the word is sometime translated to lament, yet doth it also signify to talk or have conference with one, and by Tremellius, who was well able to judge of the original, it is in this sense translated: *Ibant filiæ Israelitarum, ad confabulandum cum filia Jephthaci, quatuor diebus quotannis:* and so it is also set down in the marginal notes of our translation. And from this annual concourse of the daughters of Israel, it is not improbable in future ages the daughter of Jephthah came to be worshipped as a deity, and had by the Samaritans an annual festivity observed unto her honour, as Epiphanius hath left recorded in the heresy of the Melchisedecians.

It is also repugnant unto reason; for the offering of mankind was against the law of God, who so abhorred human sacrifice, that he admitted not the oblation of unclean beasts, and confined his altars but unto few kinds of animals, the ox, the goat, the sheep, the pigeon, and its kinds. In the cleansing of the leper, there is, I confess, mention made of the sparrow; but great dispute may be made whether it be properly rendered. And therefore the Scripture with indignation ofttimes makes mention of human sacrifice among the Gentiles; whose oblations scarce made scruple of any animal, sacrificing not only man, but horses, lions, eagles; and though they come not into holocausts, yet do we read the Syrians did make oblations of fishes unto the goddess Derceto. It being therefore a sacrifice so abominable unto God,

writers (tell it not in Gath) have contended for. He could not commit a crime which himself had just now been an executor of God's justice to punish in others."

although he had pursued it, it is not probable the priests and wisdom of Israel would have permitted it; and that not only in regard of the subject or sacrifice itself, but also the sacrificator, which the picture makes to be Jephthah, who was neither priest, nor capable of that office; for he was a Gileadite, and as the text affirmeth, the son also of an harlot. And how hardly the priesthood would endure encroachment upon their function, a notable example there is in the story of Ozias.

Secondly, the offering up of his daughter was not only unlawful and entrenched upon his religion, but had been a course that had much condemned his discretion; that is, to have punished himself in the strictest observance of his vow, when as the law of God had allowed an evasion; that is, by way of commutation or redemption, according as is determined, Levit. xxvii. Whereby if she were between the age of five and twenty, she was to be estimated but at ten shekels, and if between twenty and sixty, not above thirty. A sum that could never discourage an indulgent parent; it being but the value of a servant slain; the inconsiderable salary of Judas; and will make no greater noise than three pounds fifteen shillings with us. And therefore their conceit is not to be exploded, who say that from the story of Jephthah's sacrificing his own daughter, might spring the fable of Agamemnon, delivering unto sacrifice his daughter Iphigenia, who was also contemporary unto Jephthah; wherein to answer the ground that hinted it, Iphigenia was not sacrificed herself, but redeemed with an hart, which Diana accepted for her.[8]

Lastly, although his vow run generally for the words, "Whatsoever shall come forth, &c." yet might it be restrained in the sense, for whatsoever was sacrificeable and justly subject to lawful immolation; and so would not have sacrificed either horse or dog, if they had come out upon him. Nor was he obliged by oath unto a strict observation of that which promissorily was unlawful; or could he be qualified by vow to commit a fact which naturally was abominable. Which doctrine had Herod understood, it might have saved John Baptist's head, when he promised by oath to give unto Herodias whatsoever she would ask; that is, if it were in the compass of things which he could lawfully grant. For his oath made not that lawful which was illegal before; and if it were unjust to murder John, the supervenient oath did not extenuate the fact, or oblige the juror unto it.[9]

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[8] *Iphigenia, &c.*] So the son of Idomeneus, on whose fate there is an interesting scene in *Fenelon's Telemachus*, book v.—*Jeff.*

Now the ground at least which much promoted the opinion, might be the dubious words of the text, which contain the sense of his vow; most men adhering unto their common and obvious acception. "Whatsoever shall come forth of the doors of my house, shall surely be the Lord's, and I will offer it up for a burnt-offering." Now whereas it is said, *Erit Jehovæ, et offeram illud holocaustum*, the word signifying both *et* and *aut*, it may be taken disjunctively; *aut offeram*, that is, it shall either be the Lord's by separation, or else, an holocaust by common oblation; even as our marginal translation advertiseth, and as Tremellius rendereth it, *Erit inquam Jehovæ, aut offeram illud holocaustum.* And, for the vulgar translation, it useth often *et* where *aut* must be presumed, as Exod. xxi; *Si quis percusserit patrem et matrem*, that is, not both, but either. There being therefore two ways to dispose of her, either to separate her unto the Lord, or offer her as a sacrifice, it is of no necessity the latter should be necessary; and surely less derogatory unto the sacred text and history of the people of God must be the former.

CHAPTER XV.

Of the Picture of John the Baptist in a Camel's Skin.

THE picture of John the Baptist in a camel's skin is very questionable,[1] and many I perceive have condemned it. The ground or occasion of this description are the words of the

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[9] *Lastly, although his vow, &c.*] First added in 2nd edition.

[1] *in a camel's skin, &c.*] Ross, as usual, supports the opinion which Browne attacks. "It was fit the Baptist, who came to preach repentance for sin, should

Holy Scripture, especially of Matthew and Mark, (for Luke and John are silent herein;) by them it is delivered, "his garment was of camel's hair, and he had a leather girdle about his loins." Now here it seems the camel's hair is taken by painters for the skin or pelt with the hair upon it. But this exposition will not so well consist with the strict acception of the words; for Mark i, it is said, he was, ἐνδεδυμένος τρίχας καμήλου, and Matthew iii, εἶχε τὸ ἔνδυμα ἀπὸ τριχῶν καμήλου; that is, as the vulgar translation, that of Beza, that of Sixtus Quintus, and Clement the Eighth hath rendered it, *vestimentum habebat è pilis camelinis*; which is, as ours translateth it, a garment of camel's hair; that is, made of some texture of that hair, a coarse garment, a cilicious or sackcloth habit, suitable to the austerity of his life,—the severity of his doctrine, repentance,—and the place thereof, the wilderness,—his food and diet, locusts and wild honey.[2] Agreeable unto the example of Elias,[*] who is said to be *vir pilosus*, that is, as Tremellius interprets, *Veste villosâ cinctus*, answerable unto the habit of the ancient prophets, according to that of Zachary: "In that day the prophets shall be ashamed, neither shall they wear a rough garment to deceive;"[†] and suitable to the cilicious and hairy vests of the strictest orders of friars, who derive the institution of their monastic life from the example of John and Elias.

As for the wearing of skins, where that is properly intended, the expression of the Scripture is plain; so is it said,

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[*] 2 Kings iii, 18.

[†] Zach. xiii.

wear a garment of skins, which was the first clothes that Adam wore after he had sinned; for his fig-leaves were not proper, and this garment also shewed both his poverty and humility. For as great men wear rich skins and costly furs, he was contented with a camel's skin. By this garment also he shews himself to be another Elijah, (2 Kings i,) who did wear such a garment, and to be one of those of whom the apostle speaks, who went about in skins, of whom the world was not worthy. Neither was it unuseful in John's time, and before, to wear skins; for the prophets among the Jews, the philosophers among the Indians, and generally the Scythians did wear skins; hence by Claudian they are called *pellita juventus*. Great commanders also used to wear them; as Hercules the lion's skin, Acestes the bear's, Camilla the tiger's. John's garment, then, of camel's hair, was not, as some fondly conceit, a sackcloth or camblet, but a skin with the hair on it."

This is quaint and lively enough; but the most competent authorities agree with our author in supposing John's garment to have been made of a coarse sort of camel's hair camblet, or stuff; and Harmer has given several instances of such an article being worn.

[2] *his food, &c.*] See book vii, ch. ix.

Heb. xi, they wandered about ἐν αἰγείοις δέρμασιν, that is, in goat's skins; and so it is said of our first parents, Gen. iii, "That God made them χιτῶνας δερματίνους, *vestes pelliceas*, or coats of skins;" which though a natural habit unto all, before the invention of texture, was something more unto Adam, who had newly learned to die; for unto him a garment from the dead was but a dictate of death, and an habit of mortality.

Now if any man will say this habit of John was neither of camel's skin, nor any coarse texture of its hair, but rather some finer weave of camelot, grograin or the like, inasmuch as these stuffs are supposed to be made of the hair of that animal, or because that Ælian affirmeth that camel's hair of Persia is as fine as Milesian wool, wherewith the great ones of that place were clothed; they have discovered an habit not only unsuitable unto his leathern cincture, and the coarseness of his life, but not consistent with the words of our Saviour, when reasoning with the people concerning John, he saith, "What went you out into the wilderness to see? A man clothed in soft raiment? Behold, they that wear soft raiment, are in king's houses."

CHAPTER XVI.

Of the Picture of Saint Christopher.

THE picture of St. Christopher, that is, a man of a giant-like stature, bearing upon his shoulders our Saviour Christ, and with a staff in his hand, wading through the water, is known unto children, common over all Europe, not only as a sign unto houses, but is described in many churches,[3] and stands Colossus-like in the entrance of *Notre Dame* in Paris.[4]

Now from hence common eyes conceive an history suitable unto this description, that he carried our Saviour in his minority over some river of water; which notwithstanding we cannot at all make out. For we read not thus much in any good author, nor of any remarkable Christopher, before the reign of Decius, who lived two hundred and fifty years after Christ. This man indeed, according unto history, suffered as a martyr in the second year of that Emperor, and in the Roman calendar takes up the 21st of July.

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[3] *is known unto children, &c.*] This gigantic saint is not so general an acquaintance in our nurseries, &c. as he seems to have been in days of yore. An amusing account of one of the ecclesiastical figures of him, just as here described, may be found in the *Gent's. Mag.* for Oct. 1803.

[4] *Notre Dame.*] Also in the cathedral of Christ's Church, Canterbury.—*Jeff.*

The ground that begat or promoted this opinion, was first the fabulous adjections of succeeding ages unto the veritable acts of this martyr, who in the most probable accounts was remarkable for his staff, and a man of a goodly stature.

The second might be a mistake or misapprehension of the picture, most men conceiving that an history, which was contrived at first but as an emblem or symbolical fancy; as from the annotations of Baronius upon the Roman martyrology, Lipellous,* in the life of St. Christopher, hath observed in these words; *Acta S. Christopheri à multis depravata inveniuntur: quod quidem non aliunde originem sumpsisse certum est, quàm quòd symbolicas figuras imperiti ad veritatem successu temporis transtulerint: itaque cuncta illa de Sancto Christophero pingi consueta, symbola potiùs quàm historiæ alicujus existimandum est esse expressam imaginem;* that is, "the acts of St. Christopher are depraved by many: which surely began from no other ground than that in process of time unskilful men translated symbolical figures unto real verities: and therefore what is usually described in the picture of St. Christopher, is rather to be received as an emblem, or symbolical description, than any real history." Now what emblem this was, or what its signification, conjectures are many; Pierius hath set down one, that is, of the disciple of Christ; for he that will carry Christ upon his shoulders, must rely upon the staff of his direction, whereon if he firmeth himself he may be able to overcome the billows of resistance, and in the virtue of this staff, like that of Jacob, pass over the waters of Jordan. Or otherwise thus: he that will submit his shoulders unto Christ, shall by the concurrence of his power increase into the strength of a giant; and being supported by the staff of his Holy Spirit, shall not be overwhelmed by the waves of the world, but wade through all resistance.

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* *Lip. De Vitis Sanctorum.*

Add also the mystical reasons of this portrait alleged by Vida and Xerisanus; and the recorded story of Christopher, that before his martyrdom he requested of God, that wherever his body were, the places should be freed from pestilence and mischiefs, from infection. And therefore his picture or portrait was usually placed in public ways, and at the entrance of towns and churches, according to the received distich:[5] *

Christophorum videas, postea tutus eris.

CHAPTER XVII.

Of the Picture of St. George.

The picture of St. George killing the dragon, and as most ancient draughts do run, with the daughter of a king standing by, is famous amongst Christians. And upon this description dependeth a solemn story, how by this achievement he redeemed a king's daughter: which is more especially believed by the English, whose protector he is; and in which form and history, according to his description in the English college at Rome, he is set forth in the icons or cuts of martyrs by Cevalerius, and all this according to the Historia Lombardica, or golden legend of Jacobus de Voragine.[6] Now of what authority soever this piece be amongst us, it is I perceive received with different beliefs: for some believe the person and the story; some the person, but not the story; and others deny both.[7]

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* *Anton. Castellionæ Antiquitates Mediolanenses.*

[5] *Add also the mystical, &c.*] First added in 3rd edition.

[6] *and all this, &c.*] First added in 2nd edition.

[7] *Some believe the person, &c.*] Dr. Pettingal published a dissertation to prove both the person and the story to be fabulous, and the device of the order to be

That such a person there was, we shall not contend: for besides others, Dr. Heylin hath clearly asserted it in his *History of St. George.* The indistinction of many in the community of name, or the misapplication of the acts of one unto another, hath made some doubt thereof. For of this name we meet with more than one in history, and no less than two conceived of Cappadocia. The one an Arian, who was slain by the Alexandrians in the time of Julian; the other a valiant soldier and Christian martyr, beheaded in the reign of Dioclesian. This is the George conceived in this picture, who hath his day in the Roman calendar, on whom so many fables are delivered, whose story is set forth by Metaphrastes, and his miracles by Turonensis.

As for the story depending hereon, some conceive as lightly thereof, as of that of Perseus and Andromeda, conjecturing the one to be the father of the other; and some too highly assert it. Others with better moderation, do either entertain the same as a fabulous addition unto the true and authentic

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merely emblematical: and Dr. Byron wrote an essay (in verse) to prove that St. Gregory the Great, and not St. George was the guardian saint of England. Against these two, and other writers on the same side, Dr. S. Pegge drew up a paper which appeared in the 5th vol. of the *Archæologia:* vindicating the honor of the patron saint of these realms, and *of that society;* asserting that he was a Christian saint and martyr—George of Cappadocia; and distinct from the Arian bishop George of Alexandria, with whom Dr. Reynolds had identified him. In this paper Dr. Pegge has not mentioned the present chapter, which in all probability only attracted his notice some years after.—In his (posthumous work called) *Anonymiana,* No. 54, he says, that "the substance of Pettingal's dissertation on the original of the equestrian figure of St. George (which the learned author supposes to be all emblematical) and of the Garter, may be found in *Browne's Vulgar Errors.*"

Browne, however, it must be observed, is of the same opinion as Dr. Pegge as to the reality of St. George, his identity with George of Cappadocia, and his distinctness from the Arian bishop. All these parties are agreed in declining assent to the dragon part of the story.

It is very probable that Sir Thomas was led partly by his residence at Norwich, to investigate the story of St. George, who is a personage of no small importance there. Pegge mentions the guild of St. George in that city, (in his paper in the Archæologia,) but he was probably not aware that there has been from time immemorial, on ["Lord] Mayor's Day" at Norwich, an annual pageant, the sole remnant of St. George's guild, in which an immense dragon, horrible to view, with hydra head, and gaping jaws and wings, and scales bedecked in gold and green, is carried about by a luckless wight, whose task it is, the live-long-day, by string and pulley from within to ope and shut the monster's jaws, by way of levying contributions on the gaping multitude, especially of *youthful* gazers, with whom it is matter of half terror, half joy, to pop a half-penny into the opened mouth of SNAP, (so is he called,) whose bow of thanks, with long and forked tail high waved in air, acknowledges the gift. Throughout the rest of the year, fell *Snap* lives on the forage of that memorable day: quietly reposing in the hall of his conqueror's sainted brother, St. Andrew, where the civic feast is held.

story of St. George,[8] or else, we conceive the literal acception to be a misconstruction of the symbolical expression; apprehending a veritable history, in an emblem or piece of Christian poesy. And this emblematical construction hath been received by men not forward to extenuate the acts of saints: as, from Baronius, Lipellous the Carthusian hath delivered in the life of St George; *Picturam illam St. Georgii quâ effingitur eques armatus, qui hastæ cuspide hostem interficit, juxta quem etiam virgo posita manus supplices tendens ejus explorat auxilium, symboli potiùs quàm historiæ alicujus censenda expressa imago. Consuevit quidem ut equestris militiæ miles equestri imagine referri.* That is, the picture of St. George, wherein he is described like a Cuirassier or horseman completely armed, &c. is rather a symbolical image, than any proper figure.[9]

Now in the picture of this saint and soldier, might be implied the Christian soldier, and true champion of Christ: A horseman armed *cap à pié*, intimating the *panoplia* or complete armour of a Christian combating with the dragon, that is, with the devil, in defence of the king's daughter, that is the Church of God.[1] And therefore although the history be not made out, it doth not disparage the knights and noble order of St. George: whose cognisance is honourable in the emblem of the soldier of Christ, and is a worthy memorial to conform unto its mystery. Nor, were there no such person at all, had they more reason to be ashamed, than the noble order of Burgundy, and knights of the golden fleece; whose badge is a confessed fable.[2]

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[8] *some conceive, &c.*] First added in 2nd edition.

[9] *The picture, &c.*] First added in 2nd edition.

[1] *Church of God.*] Or rather the soule, for soe in the picture and story shee is called [*psyche*] that is the soul of man, which in a specificall sense is endeed every Christian soule, and comprehensively may signifye, the Church of God. —*Wr.*

[2] *fable.*] Borowed from that old storye of the Argo-nauts, or Argo-knights, as wee may call them, though the golden fleece be a meer romance.—*Wr.*

CHAPTER XVIII.

Of the Picture of Jerome.

The picture of Jerome usually described at his study, with a clock hanging by, is not to be omitted; for though the meaning be allowable, and probable it is that industrious father did not let slip his time without account, yet must not perhaps that clock be set down to have been his measure thereof. For clocks[3] or automatous organs, whereby we now distinguish of time, have found no mention in any ancient writers, but are of late invention, as Pancirollus observeth. And Polydore Virgil discoursing of new inventions whereof the authors are not known, makes instance in clocks and guns. Now Jerome is no late writer, but one of the ancient fathers, and lived in the fourth century, in the reign of Theodosius the first.

It is not to be denied that before the days of Jerome there were horologies, and several accounts of time; for they measured the hours not only by drops of water in glasses called *clepsydræ*, but also by sand in glasses called *clepsammia.* There were also from great antiquity, scioterical or sundials, by the shadow of a stile or *gnomon* denoting the hours of the day; an invention ascribed unto Anaximenes by Pliny. Hereof a memorable one there was in Campus Martius, from an obelisk erected, and golden figures placed horizontally about it; which was brought out of Egypt by Augustus, and described by Jacobus Laurus.* And another of great antiquity we meet with in the story of Ezechias; for so it is delivered in 2 Kings xx. "That the Lord brought the shadow backward ten degrees by which it had gone down in the dial of Ahaz." That is, say some, ten degrees, not lines; for the hours were denoted by certain divisions or steps in the dial, which others distinguished by lines, according to that of Persius,

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* A peculiar description and particular construction hereof out of R. Chomer, is set down, *Cùrios. de Caffarel.* chap. ix.

[3] *clocks.*] The ancient pictures of St. Hierom were naked, on his knees, in a cave, with an hour-glasse and a scull by him, intimating his indefatigable continuance in prayers and studye while hee lived in the cave at Bethleem. But the later painters at Rome, bycause hee had been senator and of a noble familye, picture him in the habit of the cardinals, leaning on his arm at a desk in study with a clock hanging by him, and his finger on a scull: and this they take to bee a more proper symbol of the cardinal eminencye.—*Wr.*

> Stertimus indomitum quod despumare Falernum
> Sufficiat, quintâ dum linea tangitur umbra.'

That is, the line next the meridian, or within an hour of noon.

Of later years there succeeded new inventions, and horologies composed by trochilick or the artifice of wheels; whereof some are kept in motion by weight, others perform without it. Now as one age instructs another, and time, that brings all things to ruin, perfects also every thing; so are these indeed of more general and ready use than any that went before them. By the water glasses the account was not regular; for from attenuation and condensation, whereby that element is altered, the hours were shorter in hot weather than in cold, and in summer than in winter. As for scioterical dials, whether of the sun or moon, they are only of use in the actual radiation of those luminaries, and are of little advantage unto those inhabitants, which for many months enjoy not the lustre of the sun.

It is I confess no easy wonder how the horometry of antiquity discovered not this artifice, how Architas, that contrived the moving dove, or rather the helicosophy of Archimedes, fell not upon this way. Surely as in many things, so in this particular, the present age hath far surpassed antiquity; whose ingenuity hath been so bold not only to proceed below the account of minutes; but to attempt perpetual motions,[4] and engines whose revolutions (could their substance answer the design) might out-last the exemplary mobility, and out-measure time itself. For such a one is that mentioned by John Dee, whose words are these, in his learned preface unto Euclid: "By wheels, strange works and incredible are done: a wondrous example was seen in my time in a certain instrument, which by the inventor and artificer was sold for twenty talents of gold; and then by chance had received some injury, and one Janellus of Cremona did mend the same, and presented it unto the emperor Charles the Fifth. Jeronymus Cardanus can be my witness, that therein was one wheel that moved at such a rate, that in seven thousand years only his own period should be finished; a thing almost incredible, but how far I keep within my bounds many men yet alive can tell."

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[4] *perpetual motions.*] John Romilly, a celebrated watch maker, born at Geneva, wrote a letter on the impossibility of perpetual motion.—*Jeff.*

CHAPTER XIX.

Of the Pictures of Mermaids, Unicorns, and some others.

Few eyes have escaped the picture of mermaids;[5] that is, according to Horace's monster, with a woman's head above, and fishy extremity below; and these are conceived to answer the shape of the ancient sirens that attempted upon

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[5] *mermaids.*] The existence of mermaids has been so generally ridiculed, and high authorities have so repeatedly denounced as forgeries, delusions, or traveller's wonders, the detailed narratives and exhibited specimens of these sea-nymphs, that it must be a Quixotic venture to say a word in their defence. Yet am I not disposed to give up their cause as altogether hopeless. I cannot admit the probability of a belief in them having existed from such remote antiquity, and spread so widely, without *some foundation* in truth. Nor can I consent to reject *en masse* such a host of delightfully pleasant stories as I find recorded of these *daughters of the sea*, (as Illiger call the Dugongs) merely because it is the fashion to decry them. I must be allowed, then, to hold my opinion in abeyance for further evidence. Unconvinced even by Sir Humphry Davy's grave arguments to prove that such things cannot be, and undismayed by his asserted detection of the apes and salmon in poor Dr. Philip's "undoubted original," I persist in expecting one day to have the pleasure of beholding—A MERMAID!

But what is a mermaid? Aye, there is the very *gist* of the question. Cicero little dreamt of his classical rule being degraded by application to such a discussion as the present; but I shall nevertheless endeavour to avail myself of his maxim;—*Omnis disputatio debet a definitione proficisci.* What is a mermaid? Not the fair lady of the ocean, admiring herself in a hand-mirror, and bewitching the listener by her song;—not the *triton*, dwelling in the ocean-cave, and sounding his conch-like cornet or trumpet;—not the *bishop-frocked* creature of Rondeletius; nor Aldrovandus' *mer-devil*, with his horns and face of fury; nor the howling and tempest-stirring *monsters* of Olaus Magnus—not, in short, the creature of poetry or fiction: but a most supposable, and probably often seen, though hitherto undescribed, species of the *her-*

Ulysses. Which notwithstanding were of another description, containing no fishy composure, but made up of man and bird: the human mediety variously placed not only above, but below, according unto Ælian, Suidas, Servius, Boccatius, and Aldrovandus, who hath referred their description unto

bivorous cetacea, (the seals and lamantins,) more approaching, in several respects, the human configuration, than any species we know.

Let us hear and examine Sir Humphry's arguments against the probability of such a discovery. He says, that "a *human* head, *human* hands, and *human* mammæ, are wholly inconsistent with a *fish's* tail." In one sense this is undeniable; viz.—since *homo sapiens* is (begging Lord Monboddo's pardon) an *incaudate* animal,—it follows that the *head*, *hands*, and *mammæ* of any creature furnished also with a tail, could not be *human*: and so, conversely, the tail of such a creature could not be a *fish's* tail. But this is a truism, only to be paralleled by the exclamation attributed by Peter Pindar to Sir Joseph Banks, when he had boiled the fleas and found they did not turn red,—"*Fleas* are not *lobsters!* &c." Davy's was not a nominal objection, a mere play upon words: he goes on to say, "the human head is adapted for an erect posture, and in such a posture an animal with a fish's tail could not swim." The head of *our mermaid*, however, may more strongly *resemble* the human head, than any described animal of its tribe, and yet preserve at the same time the power which they all have, of raising the head perpendicularly out of the water while swimming, as Sir Humphry himself probably did, when he was mistaken by the fair ladies of Caithness for a mermaid! Cuvier remarks, moreover, that the tails of these herbivorous cetacea differ from those of fish in their greater adaptation to maintain an erect posture. Sir Humphry proceeds—"A creature with lungs must be on the surface several times in a day; and the sea is an inconvenient breathing place!" I must take the liberty of confronting this most singular observation with a much greater authority. Cuvier says, (and surely Sir Humphry must have for the moment forgotten,) that the *cetacea*, though constantly residing in the sea, "as they respire by lungs, are obliged to rise frequently to the surface to take in fresh supplies of air." What is to be said of a naturalist who argues against the possibility of any creature provided with lungs residing in the sea, in the face of so important an example of the fact as we have in the entire class of cetacea? What would Cuvier, with all his readiness to do homage to genius in any man, and especially in so splendid an instance as Davy,—what must he have thought, had he read his preceding remarks? *Magnus aliquando dormitat Homerus!*

It is the more remarkable, as Sir Humphry actually mentions some species of this very tribe as having probably given rise to some of the stories about mermaids. And as to *mammæ* and *hands*, to which he also objects if in company with the fish's tail, we must here again have recourse to the protection of Cuvier against our mighty assailant. "The first family," (herbivorous cetacea,) says Cuvier, "frequently emerge from the water to seek for pasture on the shore. They have two mammæ on the breast, and hairs like mustachios, two circumstances which, when they raise the anterior part of the body above water, give them some resemblance to men and women, and have probably occasioned those fables of the ancients concerning Tritons and Syrens. Vestiges of claws may be discovered on the edges of their fins, which they use with dexterity in creeping, and carrying their little ones. This has given rise to a comparison of these organs with hands, and hence these animals have been called manatis," (or *lamantins.*)

Thus I have sketched the sort of creature, which may be supposed to exist: nor can I deem it unreasonable to expect such a discovery, though Davy, after saying, "It doubtless might please God to make a mermaid; but I do not believe God ever did make one:"—somewhat arrogantly pronounces that "such an animal, if created, could not long exist, and, with scarce any locomotive powers, would be the prey of other fishes formed in a manner more suited to their element."

It is singular that a writer in the *Enc. Metropolitana* should have concluded a the story of fabulous birds; according to the description of Ovid, and the account thereof in Hyginus, that they were the daughters of Melpomene, and metamorphosed into the shape of man and bird by Ceres.

And therefore these pieces, so common among us, do rather derive their original, or are indeed the very descriptions of Dagon, which was made with human figure above, and fishy shape below; whose stump, or, as Tremellius and our margin render it, whose fishy part only remained, when the hands and upper part fell before the ark. Of the shape of Artergates, or Derceto, with the Phœnicians, in whose fishy and feminine mixture, as some conceive, were implied the moon and the sea, or the deity of the waters; and therefore in their sacrifices, they made oblations of fishes. From whence were probably occasioned the pictures of Nereides and Tritons among the Grecians, and such as we read in Macrobius, to have been placed on the top of the temple of Saturn.

We are unwilling to question the royal supporters of England, that is, the approved descriptions of the lion and the unicorn. Although, if in the lion the position of the pizzle

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long and amusing article with the marginal note, "mermaids impossible animals;" supported solely by the very extraordinary arguments of Sir Humphry.

Those who are desirous of seeing an enumeration of all the supposed mermaids and monsters, which have at various times amused the public, may refer to the article just quoted, and to a miscellaneous volume, entitled the *Working Bee*, published by Fisher and Co. Newgate street, in which is an *Historical Memoir of Syrens or Mermaids*.

In explanation of one or two allusions in my preceding remarks, I may just mention that in the *Evangelical Magazine*, for Sept. 1822, is inserted part of a letter from the Rev. Dr. Philip, dated Cape Town, April 20th, 1822. The Dr. says, he had just seen a mermaid, then exhibiting in that town. The head is about the size of a baboon's, thinly covered with black hair; a few hairs on the upper lip. The forehead low, but with better proportioned and more like human features than any of the baboons. The ears, nose, lips, chin, breasts, fingers, and nails, resemble the human subject. Eight *incisores*, four *canine*, eight *molares*. The animal, though shrunk, is about three feet long; its resemblance to a man having ceased immediately under the *mammæ*. On the line of separation, and immediately under the breast, are two fins. Below, it resembles a salmon. It is covered with scales—but which on the upper part are scarcely perceptible: it was caught somewhere on the north of China by a fisherman, who sold it for a trifle. At Batavia it was bought by Capt. Eades, in whose possession it then was. This very specimen Davy pronounced to be composed of the head and bust from two apes, fastened to the tail of the kipper salmon,—*salmo salar*.

He also notices another instance of a supposed mermaid, seen off the coast of Caithness, which turned out to have been a gentleman bathing. He is asserted to have intended *himself*. See his *Salmonia*.

be proper, and that the natural situation, it will be hard to make out their retrocopulation, or their coupling and pissing backward, according to the determination of Aristotle; all that urine backward do copulate πυγηδὸν, *clunatim*, or aversely, as lions, hares, lynxes.

As for the unicorn, if it have the head of a deer and the tail of a boar, as Vertomannus describeth it, how agreeable it is to this picture every eye may discern. If it be made bisulcous or cloven-footed, it agreeth unto the description of Vertomannus, but scarce of any other; and Aristotle supposeth that such as divide the hoof, do also double the horn; they being both of the same nature, and admitting division together. And lastly, if the horn have this situation and be so forwardly affixed, as is described, it will not be easily conceived how it can feed from the ground; and therefore we observe that nature, in other cornigerous animals, hath placed the horns higher and reclining, as in bucks; in some inverted upwards, as in the rhinoceros, the Indian ass, and unicornous beetles; and thus have some affirmed it is seated in this animal.

We cannot but observe that in the picture of Jonah and others, whales are described with two prominent spouts on their heads; whereas indeed they have but one in the forehead, and terminating over the windpipe.[6] Nor can we overlook the picture of elephants with castles on their backs, made in the form of land castles, or stationary fortifications, and answerable unto the arms of Castile, or Sir John Oldcastle; whereas the towers they bore were made of wood, and girt unto their bodies, as is delivered in the books of Maccabees, and as they were appointed in the army of Antiochus.

We will not dispute the pictures of retiary spiders, and their position in the web, which is commonly made lateral, and regarding the horizon, although, if observed, we shall commonly find it downward, and their heads respecting the centre. We will not controvert the picture of the seven stars; although if thereby be meant the Pleiades, or subconstellation upon the back of Taurus, with what congruity they are described, either in site or magnitude, in a clear night an ordinary eye may discover from July unto April. We will not question the tongues of adders and vipers, described like an anchor, nor the picture of the fleur-de-lis: though how far they agree unto their natural draughts, let every spectator determine.

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[6] *two prominent points, &c.*] The cetacea have all two spiracles, but on some they are considerably remote from each other, in others close together, and in some so near that they seem to unite in one and the same opening.

Whether the cherubims about the ark be rightly described in the common picture,* that is, only in human heads, with two wings, or rather in the shape of angels or young men, or somewhat at least with feet, as the Scripture seems to imply. Whether the cross seen in the air by Constantine, were of that figure wherein we represent it, or rather made out of X and P, the two first letters of Χριστός. Whether the cross of Christ did answer the common figure; whether so far advanced above his head; whether the feet were so disposed, that is, one upon another, or separately nailed, as some with reason describe it, we shall not at all contend. Much less whether the house of Diogenes were a tub framed of wood, and after the manner of ours, or rather made of earth, as learned men conceive, and so more clearly make out that expression of Juvenal.† We should be too critical to question the letter Y, or bicornous element of Pythagoras, that is, the making of the horns equal ;[7] or the left less than the right, and so destroying the symbolical intent of the figure; confounding the narrow line of virtue with the larger road of vice, answerable unto the narrow door of heaven, and the ample gates of hell, expressed by our Saviour, and not forgotten by Homer in that epithet of Pluto's house.[8] ‡

Many more there are whereof our pen shall take notice, nor shall we urge their enquiry; we shall not enlarge with what incongruity, and how dissenting from the pieces of antiquity, the pictures of their gods and goddesses are described, and how hereby their symbolical sense is lost; although herein it were not hard to be informed from Phornutus,* Fulgentius,† and Albricus.‡ Whether Hercules be more properly described strangling than tearing the lion, as Victorius hath disputed; nor how the characters and figures of the signs and planets be now perverted, as Salmasius hath learnedly declared. We will dispense with bears with long tails, such as are described in the figures of heaven; we shall tolerate flying horses, black swans, hydras, centaurs, harpies, and satyrs, for these are monstrosities, rarities, or else poetical fancies,[9] whose shadowed moralities requite their substantial falsities. Wherein indeed we must not deny a liberty; nor is the hand of the painter more restrainable than the pen of the poet. But where the real works of nature, or veritable acts of story are to be described, digressions are abberrations; and art being but the imitator or secondary representor, it must not vary from the verity of the example, or describe things otherwise than they truly are, or have been. For hereby introducing false ideas of things, it perverts and deforms the face and symmetry of truth.

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* 2 Chron. iii, 13.

† ——Dolia magni non ardent Cynici, &c.

‡ ᾿Ευρυπυλής.

[7] *the letter Y, &c.*] An allusion to this letter, in Dr. Donne's sermon on "Where your treasure is, there will your heart be also," is mentioned by Dr. Vicesimus Knox in his 38th Winter Evening: with some excellent observations on the style of the old sermon writers.—*Jeff.*

[8] *Whether the cherubims, &c.*] This paragraph first added in 2nd edition.

CHAPTER XX.

Of the Hieroglyphical Pictures of the Egyptians.

CERTAINLY of all men that suffered from the confusion of Babel, the Egyptians found the best evasion; for, though words were confounded, they invented a language[1] of things, and spake unto each other by common notions in nature. Whereby they discoursed in silence, and were intuitively understood from the theory of their expresses. For they assumed the shapes of animals common unto all eyes, and by their conjunctions and compositions[2] were able to communicate their conceptions unto any that coapprehended the syntaxes of their natures. This many conceive to have been the primitive way of writing, and of greater antiquity than letters; and this indeed might Adam well have spoken, who, understanding the nature of things, had the advantage of natural expressions. Which the Egyptians but taking upon trust, upon their own or common opinion, from conceded mistakes they authentically promoted errors; describing in their hieroglyphicks creatures of their own invention, or from known and conceded animals, erecting significations not inferible from their natures.[3]

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* *Phornut. De Natura Deorum.* † *Fulg. Mythologia.*
‡ *Albric. De Deorum Imaginibus.*

[9] *flying horses, &c.*] Modern discoveries have lessened this list. The *black swan*, though *rara avis*, is no longer a poetical fancy. There was a time when the camelopard was deemed imaginary.

[1] *a language, &c.*] A common language might possibly bee framed which all should understand under one character, in their own tongue, as well as all understand in astronomy the 12 signes,

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the 7 planets, and the several aspects; or in Geometry, a triangle, a rhombe, a square, a parallelogram, a helix, a decussation, a cross, a circle, a sector, and such like very many: or the Saracenicall and algebraick characters in arithmetick, or the notes of weight among physitians and apothecaryes: or lastly, those marks of punctuations and qualityes among grammarians in Hebrew under, in Arabick above, the words. To let pass Paracelsus his particular marks, and the common practice of all trades.—*Wr.*

[2] *by their conjunctions, &c.*] More clearly, "by the conjunction and composition of those shapes of animals, &c."

[3] *which the Egyptians, &c.*] How little, alas, do we know of the picture-writing of the Egyptians, even after all the profound researches of Young, Champollion, Klaproth, Akerblad, De Sacy, and others: and how little (we may perhaps add) can we hope ever to see effected. We are told by Clemens Alexandrinus (and subsequent researches have done little more than enable us to comprehend his meaning,) that the Egyptians used three modes of writing;—the *epistolographic*, (called *demotic* by Herodotus and Diodorus, and *enchorial* in the Rosetta inscription,) the *hieratic*, (employed by the sacred scribes,) and the *hieroglyphick*,—consisting of the *kuriologic*, (subsequently termed *phonetic*,) and the *symbolic*, of which there are several kinds;—one representing objects *properly*, another *metaphorically*, a third *enigmatically*. The great discovery made by Dr. T. Young, from the Rosetta incription, was that *some* of the hieroglyphs were the *signs of sounds*, each hieroglyph signifying the first letter of the Egyptian name of the object represented. Supposing *all* their picture-writing to be symbolical, then it would be manifestly impossible to hope to read it. For example, we are *told* that the figure of a *bee* expressed the idea of *royalty;* but who could have *guessed* this? Supposing on the other hand that the hieroglyphs were *entirely phonetic* (which was not the case, nor can we possibly ascertain in what proportion they were so,) supposing them also to be certain and determinate signs of sounds, one and the same sign always employed to represent one and the same sound;—supposing in short that "we could spell syllables and distinguish words with as much certainty and precision as if they had been written in any of the improved alphabets of the west,—there would yet always remain one difficulty over which genius itself could not triumph; namely, to discover the signification of the words, when it is not known by tradition or otherwise:"—when the original language has long since utterly vanished;—and when the only instrument left wherewith we can labour (the Coptic) is but the mutilated

And first, although there were more things in nature, than words which did express them, yet even in these mute and silent discourses, to express complexed significations, they took a liberty to compound and piece together creatures of allowable forms into mixtures inexistent. Thus began the descriptions of griffins, basilisks, phœnix, and many more; which emblematists and heralds have entertained with signications answering their institutions; hieroglyphically adding martegres, wivernes, lion-fishes, with divers others. Pieces of good and allowable invention unto the prudent spectator, but are looked on by vulgar eyes as literal truths or absurd impossibilities; whereas indeed they are commendable inventions, and of laudable significations.

Again, beside these pieces fictitiously set down, and having no copy in nature, they had many unquestionably drawn, of inconsequent signification, nor naturally verifying their intention. We shall instance but in few, as they stand recorded by Orus. The male sex they expressed by a vulture,[4] because of vultures all are females, and impregnated by the wind; which authentically transmitted hath passed many pens, and became the assertion of Ælian, Ambrose, Basil, Isidore, Tzetzus, Philes, and others. Wherein notwithstanding what injury is offered unto the creation in this confine-

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and imperfect fragment of an extinct language, itself when living the remnant only of that elder form of speech which we are seeking to decypher; but of which, alas! through so imperfect a medium, but slight traces and lineaments can be here and there faintly reflected. The article, EGYPT, in the *Sup.* to *Ency. Brit.* and HIEROGLYPHICKS, in *Ency. Metrop.* together with articles in the 45th and 57th vols. of the *Edinburgh Review*, will give those disposed to go further into the subject a full and interesting view of all that has hitherto been effected in this most difficult, if not hopeless, field of labour.

But our author's special object in this chapter is to bring against the Egyptians the twofold charge; first, of "describing in their hieroglyphicks creatures of their own inventions;" and secondly, of "erecting, from known and conceded animals, significations not inferible from their natures." No charge, however, can fairly be entertained till it has been proved;—and it would be no easy matter to shew that many of the monsters enumerated, were really Egyptian: . . . . . "Considering how absurdly and monstrously complicated the Egyptian superstitions really were, it becomes absolutely essential to separate that which is most fully established, or most generally admitted, from the accidental or local varieties, which may have been exaggerated by different authors into established usages of the whole nation, and still more from those which have been the fanciful productions of their own inventive faculties."—*Dr. Young*, EGYPT, *Sup. Ency. Brit.* iv, 43.

The authors on whom Browne relies, especially Pierius, are by no means to be received without the caution expressed in the foregoing quotation.

[4] *the male sex, &c.*] See *Pierius, Hieroglyphica*, fol. 1626, lxxiii, c. 1, 4. *Horapollo* (4to. *curâ Pauw.*) No. 12.

ment of sex, and what disturbance unto philosophy in the concession of windy conceptions, we shall not here declare. By two drachms they thought it sufficient to signify an heart;[5] because the heart at one year weigheth two drachms, that is, a quarter of an ounce, and unto fifty years annually increaseth the weight of one drachm, after which in the same proportion it yearly decreaseth; so that the life of a man doth not naturally extend above an hundred. And this was not only a popular conceit, but consentaneous unto the physical principles, as Hernius hath accounted it.*

A woman that hath but one child, they express by a lioness; for that conceiveth but once.[6] Fecundity they set forth by a goat, because but seven days old it beginneth to use coition.[7] The abortion of a woman they describe by an horse kicking a wolf; because a mare will cast her foal if she tread in the track of that animal.[8] Deformity they signify by a bear,[9] and an unstable man by a hyæna,[1] because that animal yearly exchangeth its sex. A woman delivered of a female child they imply by a bull looking over his left shoulder;[2] because if in coition a bull part from a cow on that side, the calf will prove a female.[3]

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* In his *Philosophia Barbarica*.

[5] *By two drachms, &c.*] Pierius says that the Egyptians used the vulture to symbolize two drachms, or a heart: and he gives other reasons for the adoption of the symbol, though he deems that mentioned by Browne, the most probable. (Ibid. l. xviii, c. 20.) Horapollo says, they used the vulture to represent two drachms, because unity was expressed by two lines; and, unity being the beginning of numbers, most fitly doth its sign express a vulture, because, like unity, it is *singly* the author of its own increase. (Ibid. No. 12.)

[6] *A woman, &c.*] *Pierius*, lib. i, c. 14, *Horapollo*, No. 82.

[7] *Fecundity, &c.*] *Pierius*, lib. x, c. 10, *Horapollo*, No. 48.

[8] *The abortion, &c.*] *Pierius*, lib. xi, c. 9, *Horapollo*, No. 45.

Whether the tracke of the wolfe will cause abortion in a mare is hard to bee knowne: but the mare does soe little feare the wolfe, that (as I have heard itt from the mouth of a gentleman, an eye-witness of what he related) as soone as shee perceaves the wolfe to lye in watch for her young foale, she will never cease hunting with open mouth till shee drive him quite away: the wolfe avoyding the gripe of her teeth, as much as the stroke of her heeles: and to make up the probability hereof, itt is certaine that a generous horse will fasten on a dog with his teeth, as fell out anno 1653, in October, at Bletchinden (Oxon) a colt being bated by a mastive (that was set on by his master to drive him out of a pasture) tooke up the dog in his teeth by the back, and rann away with him, and at last flinging him over his head lefte the dog soe bruised with the gripe and the fall, that hee lay half dead; but the generous colte leapt over the next hedge, and ran home to his own pasture unhurt.—*Wr.*

[9] *Deformity, &c.*] *Pierius*, l. xi, c. 42. *Horapollo*, No. 83, says, "Hominem, qui initio quidem informis natus sit, sed postea formam acceperit, innuunt depicta ursa prægnante."

[1] *an unstable, &c.*] *Pierius*, l. xi, c. 24, *Horapollo*, No. 69.

All which, with many more, how far they consent with truth we shall not disparage our reader to dispute; and though some way allowable unto wiser conceits who could distinctly receive their significations, yet carrying the majesty of hieroglyphicks, and so transmitted by authors, they crept into a belief with many, and favourable doubt with most. And thus, I fear, it hath fared with the hieroglyphical symbols of Scripture; which, excellently intended in the species of things sacrificed, in the prohibited meats, in the dreams of Pharaoh, Joseph, and many other passages, are ofttimes racked beyond their symbolizations, and enlarged into constructions disparaging their true intentions.[4]

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[2] *A woman, &c.*] *Pierius*, l. iii, c. 6. *Horapollo*, who adds also the converse of the proposition, No. 43.

[3] *female.*] I have heard this avowed by auncient grave farmers.—*Wr.*

[4] *intentions.*] Ross dispatches the 16th, 17th, 18th, 19th, and 20th chapters in the following summary remarks:

"In some subsequent chapters the doctor questions the pictures of St. Christopher carrying Christ over the river; of St. George on horseback killing the dragon; of St. Jerom with a clock hanging by; of mermaids, unicorns, and some others; with some hieroglyphick pictures of the Egyptians. In this he doth *luctari cum larvis*, and with Æneas in the poet, *Irruit et frustra ferro diverberat umbras.* He wrestles with shadows: for he may as well question all the poetical fictions, all the sacred parables, all tropical speeches; also escutcheons, or coats of arms, signs hanging out at doors—where he will find blue boars, white lions, black swans, double-headed eagles, and such like, devised only for distinction. The like devices are in military ensigns. Felix, Prince of Salernum, had for his device a tortoise with wings, flying, with this motto, *amor addidit;* intimating, that love gives wings to the slowest spirits. Lewis of Anjou, King of Naples, gave for his device, a hand out of the clouds, holding a pair of scales, with this motto, *Æqua durant semper.* Henry the First, of Portugal, had a flying horse for his device. A thousand such conceits I could allege, which are symbolical, and therefore it were ridiculous to question them, if they were historical. As for the cherubims, I find four different opinions. 1. Some write they were angels in the form of birds. 2. Aben Ezra thinks the word cherub signifieth any shape or form. 3. Josephus will have them to be winged animals, but never seen by any. 4. The most received opinion is, that they had the shape of children: *for rub* in Hebrew, and *rabe* in Chaldee, signifieth a child; and *che*, as: so then, cherub signifieth as a child, and it is most likely they were painted in this form."

CHAPTER XXI.[5]

Of the Picture of Haman Hanged.

In common draughts, Haman is hanged by the neck upon an high gibbet, after the usual and now practised way of suspension: but whether this description truly answereth the original, learned pens consent not, and good grounds there are to doubt. For it is not easily made out that this was an ancient way of execution in the public punishment of malefactors among the Persians, but we often read of crucifixion in their stories. So we find that Orostes, a Persian governor, crucified Polycrates the Samian tyrant. And hereof we have an example in the life of Artaxerxes, King of Persia, (whom some will have to be Ahasuerus in this story,) that his mother, Parysatis, flayed and crucified her eunuch. The same also seems implied in the letters patent of King Cyrus: *Omnis qui hanc mutaverit jussionem, tollatur lignum de domo ejus, et erigatur, et configatur in eo.**

The same kind of punishment was in use among the Romans, Syrians, Egyptians, Carthaginians, and Grecians. For though we find in Homer that Ulysses in a fury hanged the strumpets of those who courted Penelope, yet is it not so easy to discover that this was the public practice or open course of justice among the Greeks.

And even that the Hebrews used this present way of hanging, by illaqueation or pendulous suffocation, in public justice and executions, the expressions and examples in Scripture conclude not, beyond good doubt.

That the King of Hai was hanged, or destroyed by the common way of suspension, is not conceded by the learned Masius in his comment upon that text; who conceiveth thereby rather some kind of crucifixion, at least some patibulary affixion after he was slain, and so represented unto the people until toward the evening.

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* In Ezra vi.

[5] *Chap* xxi.] The whole chapter first added in 6th edition.

Though we read in our translation that Pharoah hanged the chief baker, yet learned expositors understand hereby some kind of crucifixion, according to the mode of Egypt, whereby he exemplarily hanged out till the fowls of the air fed on his head or face, the first part of their prey being the eyes. And perhaps according to the signal draught hereof in a very old manuscript of Genesis, now kept in the Emperor's library at Vienna, and accordingly set down by the learned Petrus Lambecius, in the second tome of the description of that library.

When the Gibeonites hanged the bodies of those of the house of Saul, thereby was intended some kind of crucifying,[6] according unto good expositors, and the vulgar translation; *crucifixerunt eos in monte coram domino.* Nor only these, mentioned in Holy Scripture, but divers in human authors, said to have suffered by way of suspension or crucifixion might not perish by immediate crucifixion;[7] but however otherwise destroyed, their bodies might be afterward appended or fastened unto some elevated engine, as exemplary objects unto the eyes of the people. So sometimes we read of the crucifixion of only some part, as of the heads of Juliaanus and Albinus, though their bodies were cast away.[8] Besides, all crosses or engines of crucifixion were not of the ordinary figure, nor compounded of transverse pieces, which make out the name, but some were simple, and made of one *arrectarium* serving for affixion or infixion, either fastening or piercing through; and some kind of crucifixion is the setting of heads upon poles.

That legal text which seems to countenance the common way of hanging, if a man hath committed a sin worthy of death, and they hang him on a tree,* is not so received by Christian and Jewish expositors. And, as a good annotator of ours † delivereth, out of Maimonides: the Hebrews understand not this of putting him to death by hanging, but of hanging a man after he was stoned to death, and the manner is thus described; after he is stoned to death they fasten a piece of timber in the earth, and out of it there cometh a piece of wood, and then they tie both his hands one to another, and hang him unto the setting of the sun.

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[6] *the Gibeonites, &c.*] The Jews, as is just afterwards remarked, inflicted the infamy (rather than punishment) of hanging *after* death. And so might these Gibeonites. But they were not Israelites, as Rev. T. H. Horne has observed, but Canaanites, and probably retained their own laws. See his section on the punishments mentioned in Scripture; *Introduction, &c.* part ii, ch. iii, § iv.

[7] *nor only, &c.*] This sentence is inserted, in MS. SLOAN. 1827, instead of the following: "Many, both in Scripture and human writers, might be said to be crucified, though they did not perish immediately by crucifixion."

[8] *cast away.*] The succeeding sentence was added from MS. SLOAN. 1827.

Beside, the original word, *hakany*, determineth not the doubt. For that by lexicographers or dictionary interpreters, is rendered suspension and crucifixion, there being no Hebrew word peculiarly and fully expressing the proper word of crucifixion, as it was used by the Romans; nor easy to prove it the custom of the Jewish nation to nail them by distinct parts unto a cross, after the manner of our Saviour crucified; wherein it was a special favour indulged unto Joseph to take down the body.

Lipsius lets fall a good caution to take off doubts about suspension delivered by ancient authors, and also the ambiguous sense of κρεμάσαι among the Greeks. *Tale apud Latinos ipsum suspendere, quod in crucem referendum moneo juventutem;* as that also may be understood of Seneca, *Latrocinium fecit aliquis, quid ergo meruit? ut suspendatur.* And this way of crucifying he conceiveth to have been in general use among the Romans, until the latter days of Constantine, who in reverence unto our Saviour abrogated that opprobrious and infamous way of crucifixion. Whereupon succeeded the common and now practised way of suspension.

But long before this abrogation of the cross, the Jewish nation had known the true sense of crucifixion: whereof no nation had a sharper apprehension, while Adrian crucified five hundred of them every day, until wood was wanting for that service. So that they which had nothing but 'crucify' in their mouths, were therewith paid home in their own bodies; early suffering the reward of their imprecations, and properly in the same kind.

* Deut. xxi.

† Ainsworth.

CHAPTER XXII.[9]

Of the Picture of God the Father; of the Sun, Moon, and Winds, with others.

THE picture of the Creator, or God the Father, in the shape of an old man, is a dangerous piece,[1] and in this fecundity of sects may revive the *anthropomorphites.** Which although maintained from the expression of Daniel, "I beheld where the ancient of days did sit, whose hair of his head was like the pure wool;" yet may it be also derivative from the hieroglyphical description of the Egyptians; who to express their eneph or Creator of the world, described an old man in a blue mantle, with an egg in his mouth, which was the emblem of the world. Surely those heathens, that notwithstanding the exemplary advantage in heaven, would endure no pictures of sun or moon, as being visible unto all the world, and needing no representation, do evidently accuse the practice of those pencils that will describe invisibles. And he that challenged the boldest hand unto the picture of an echo, must laugh at this attempt, not only in the description of invisibility, but circumscription of ubiquity, and fetching under lines incomprehensible circularity.

* Certain hereticks who ascribed human figure unto God, after which they conceived he created man in his likeness.

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[9] *Chap.* xxii.] The first and second subjects of this chapter were Nos. 14 and 15, of chapter xxii, in editions 1672 and 1686. There they were obviously out of their place, occurring in the midst of a very different class of observations. I have therefore removed them: and having found (in No. 1827 of the Sloanian MSS. in the British Museum) some additional instances of mistakes in "pictural draughts," I have formed the two transplanted numbers, together with the hitherto unpublished matter, into a new chapter.

[1] *piece.*] This is a very just and worthy censure, and well followed with scorne in the close of this paragraph. St. Paul saw things in a vision which himself could not utter: and therefore they are verye bold with God, who dare to picture him in any shape visible to the eye of mortality, which Daniel himself beholde not, but in a rapture and an extatical vision: unlesse they can answere that staggering question, "To what will you liken me?"—*Wr.*

St. Augustine censures this impropriety; Ep. cxxii.

The pictures of the Egyptians were more tolerable, and in their sacred letters more veniably expressed the apprehension of divinity. For though they implied the same by an eye upon a sceptre, by an eagle's head, a crocodile and the like, yet did these manual descriptions pretend no corporal representations, nor could the people misconceive the same unto real correspondencies. So, though the cherub carried some apprehension of divinity, yet was it not conceived to be the shape thereof; and so perhaps, because it is metaphorically predicated of God that he is a consuming fire, he may be harmlessly described by a flaming representation. Yet if, as some will have it, all mediocrity of folly is foolish, and because an unrequitable evil may ensue, an indifferent convenience must be omitted, we shall not urge such representments; we could spare the Holy Lamb for the picture of our Saviour, and the dove or fiery tongues to represent the Holy Ghost.

2. The sun and moon are usually described with human faces; whether herein there be not a Pagan imitation, and those visages at first implied Apollo and Diana, we may make some doubt; and we find the statue of the sun was framed with rays about the head, which were the indeciduous and unshaven locks of Apollo. We should be too iconomical * to question the pictures of the winds, as commonly drawn in human heads, and with their cheeks distended; which notwithstanding we find condemned by Minutius, as answering poetical fancies, and the Gentile description of Æolus, Boreas, and the feigned deities of winds.

3.[3] In divers pieces, and that signal one of Testa,[4] describing Hector dragged by Achilles about the walls of Troy, we

* Or quarrelsome with pictures. Dion. *Ep.* 7, a, *ad Policar. et Pet. Hall. not. in vit. S. Dionys.*

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[3] .] The rest of this chapter is now first printed;—from MS. SLOAN, 1827, 3;—where it is thus prefaced;—"Though some things we have elsewhere delivered of the impropriety, falsity, or mistakes, in pictural draughts, yet to awaken your curiosity, these may be also considered.—In divers pieces, &c."

[4] *Testa.*] Pietro Testa, a painter of Lucca and Rome, drowned 1632, in the Tyber, endeavouring to save his hat, which had been blown off by a gust of wind.—*Gr.*

find him drawn by cords or fastenings about both his ancles; which notwithstanding is not strictly answerable unto the account of Homer, concerning this act upon Hector, but rather applicable unto that of Hippothous drawing away the body of Patroclus, according to the expression of Homer:

> Hippothous pede trahebat in forti pugna per acrem pugnam.
> Ligatum loro ad malleolum circa tendines.—*Hom. Il.* xvii, 289.

For that act performed by Achilles upon Hector is more particularly described:

> Amborum retro pedum perforavit tendines
> Ad talum usque a calce, bubulaque innexuit lora
> De curruque ligavit; caput vero trahi sivit.—*Hom. Il.* xxii, 396.

So that he bound not these ties about his feet, but made a perforation behind them, through which he ran the thongs, and so dragged him after his chariot: which was not hard to effect; the strength of those tendons being able to hold in that tracture; and is a common way practised by butchers, thus to hang their sheep and oxen.[5]

This, though an unworthy act, and so delivered by Homer, yet somewhat retaliated the intent of Hector himself towards the body of Patroclus, the intimate of Achilles; and stands excused by Didymus upon the custom of the Thessalians, to drag the body of the homicide unto the grave of their slain friends; and the example of Simon the Thessalian, who thus dealt with the body of Eurodamus, who had before slain his brother.

4. But, not to amuse you with pictures derived from Gentile histories, the draught of Potiphar's lady lying on a bed, and drawing Joseph unto her, seems additional unto the text, nor strictly justifiable from it; wherein it is only said, that, after some former temptation, when Joseph came home to dispatch or order his affairs, and there was no man of the house then within, or with him, that she laid hold of his garment, and said, "lye with me," without such apt preparations either of nakedness, or being in her bed, or the like opportunities, which pictures thereof have described.

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[5] *oxen.*] In the royal library at Turin is a curious volume, containing the *Iliad*, illustrated by the monks. One of the illuminations represents the burial of Hector, and a train of Benedictines assisting in the funeral ceremony.

5. The picture of Moses, praying between Hur and Aaron, seems to have miscarried in some draughts; while some omit the rod which he should hold up in his hand; and others describe him on his knees, with his hands supported by them: whereas it is plainly said in the text, that, when Moses was weary of standing, he sat down upon the rock. And therefore, for the whole process, and full representation, there must be more than one draught; the one representing him in station, the other in session, another in genuflexion. And though in this piece Aaron is allowed to be present on the hill at Rephidim, yet may he also challenge a place in the other piece of mount Sinai, (wherein he is often omitted,) according to the command of God unto Moses: "Thou shalt come up, thou *and Aaron with thee;* but let not the priests nor the people break through, to come up unto the Lord."

6. The picture of Jael nailing the head of Sisera unto the ground, seems questionable in some draughts; while Sisera is made to lie in a prone posture, and the nail driven into the upper part of the head; whereas it is plainly delivered that Jael struck the nail through his temples, and fastened him to the ground; and which was the most proper and penetrable part of the skull; such as a woman's hand might pierce, driving a large nail through, and longer than the breadth of a head, according to the description,—that she took no ordinary nail, but such as fastened her tent, and pierced his head, and the ground under it.

7. An improper spectacle at a feast, and very incongruous unto the birth-day of a prince, a time of pardon and relaxation, was the head of John the Baptist. More properly, in the noble picture thereof, the hand of Reuben hath left out the person of Herodias, who was not in the room, agreeably unto the delivery of St. Mark; that, after Herod had promised to grant her daughter whatever she would ask, she went out to enquire of her mother, Herodias, what she should demand. And that Salome, or her daughter, brought in the head of John unto Herod, as he was sitting at the table, though it well sets off the picture, is not expressed in the text; wherein it is only said that she brought it unto her mother.

8. That King Ahasuerus feasted apart from the queen, is confirmable from Scripture account. Whether the queen were present at the fatal feast of Belshazzar seems of greater doubt; forasmuch as it is said in the text, that, upon the fright and consternation of the king, when none of the Chaldeans could read the hand-writing on the wall, the queen came in, and recommended Daniel unto him. But if it be only meant and understood of the queen-mother, the draught may hold, and the *licentia pictoria* not culpable in that notable piece of Tintoret or Bassano describing the feast of Belshazzar, wherein the queen is placed at the table with the king.

9. Though some hands have failed, yet the draught of St. Peter in the prison is properly designed by Rubens, sleeping between two soldiers, and a chain on each arm; and so illustrateth the text, that is, with two chains fastened unto his arms, and the one arm of each of the soldiers, according to the custom of those times, to fasten the prisoner unto his guard or keeper; and after which manner St. Paul is conceived to have had the liberty of going about Rome.

10. In the picture of our Saviour sleeping in the ship, while in many draughts he is placed not far from the middle, or in the prow of the vessel, it is a variation from the text, which distinctly saith "at the poop," which being the highest part, was freest from the billows. Again, in some pieces he is made sleeping with his head hanging down; in others, on his elbow; which amounteth not unto the textual expression, "upon a pillow," or some soft support, or at least, (as some conceive that emphatical expression may imply,) some part of the ship convenient to lean down the head. Besides, this picture might properly take in the concurrent account of the Scripture, and not describe a single ship, since the same delivereth that there went off other *naviculæ*, or small vessels with it.

11. Whilst the text delivereth that the tempter placed our Saviour (as we read it) upon the *pinnacle* of the temple, some draughts do place him upon the point of the highest turrets; which, notwithstanding, Josephus describeth to have been made so sharp that birds might not light upon them; and the

word πτερύγιον signifying a *pinna*,[6] or some projecture of the building, it may probably be conceived to have been some plain place or jetty, from whence he might well cast himself down upon the ground, not falling upon any part of the temple; if there were no wing or prominent part of the building peculiarly called by that name.

12. That piece of the three children in the fiery furnace, in several draughts, doth not conform unto the historical accounts: while in some they are described naked and bareheaded; and in others with improper coverings on their heads. Whereas the contrary is delivered in the text, under all learned languages, and also by our own, with some expositions in the margin: not naked in their bodies, (according to their figure in the *Roma Sotterranea* of Bosio,[7] among the sepulchral figures in the monument of St. Priscilla,) but having a loose habit, after the Persian mode, upon them, whereby it might be said that their garments did not so much as smell of the fire; nor bare on their heads, as described in the first chamber of the cemetery of Priscilla, but having on it a tiara, or cap, after the Persian fashion, made somewhat reclining or falling agreeable unto the third table of the fifth cemetery, and the mode of the Persian subjects; not a peaked, acuminated, and erected cap, proper unto their kings, as is set down in the medal of Antoninus, with the reverse, *Armenia*. A standard direction for this piece might probably be that ancient description set down in the calendar used by the Emperor Basilius Porphyrogenitus, and by Pope Paul the Fifth, given unto the Vatican, where it is yet conserved.[8]

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[6] *the word, &c.*] Unquestionably it could not have been any thing like a turret or pinnacle. Some commentators (Le Clerc) consider it a projecting portion of the building outside the parapet. Others (Rosenmüller) call it the flat roof of a portico.

[7] *Roma, &c.*] *Jacques Bosio, Roma Sotterranea;* left imperfect by him, but published by his executor, Aldrovandini, fol. 1632; since translated into Latin, and reprinted several times, with additions. —*Gr.*

[8] Numerous additions might yet further be made to our author's collection of pictorial inaccuracies, if such were fairly within our province. It may be allowed to us, at least, to give one or two references to such additions. John Interian de Avala, a Spanish Monk, who died at Madrid, in 1770, published a work on the errors of painters in representing religious subjects; it is entitled *Pictor Christianus Eruditus*, fol. 1720.

In the European Magazine, for 1786, vol. ix, p. 241, is noticed a very curious work, (little known) by M. Phil. Rohr, entitled *Pictor Errans*, which was a-

CHAPTER XXIII.

Compendiously of many popular Customs, Opinions, &c. viz. of an Hare crossing the High-way; of the ominous appearing of Owls and Ravens; of the falling of Salt; of breaking the Egg-shell; of the True Lovers' Knot; of the Cheek Burning or Ear Tingling; of speaking under the Rose; of Smoke following the fair; of Sitting cross-legged; of hair upon Moles; of the set time of paring of Nails; of Lions' heads upon Spouts and Cisterns; of the saying, Ungirt, Unblest; of the Sun dancing on Easter-day; of the Silly-how; of being Drunk once a Month; of the appearing of the Devil with a Cloven hoof.

If an hare cross the high-way,[8] there are few above threescore years that are not perplexed thereat; which notwithstanding is but an augurial terror, according to that received expression, *Inauspicatum dat iter oblatus lepus.* And the ground of the conceit was probably no greater than this, that a fearful animal passing by us, portended unto us something to be feared: as upon the like consideration, the meeting of a fox presaged some future imposture; which was a superstitious observation prohibited unto the Jews, as is expressed in the idolatry of Maimonides, and is referred unto the sin of an observer of fortunes, or one that abuseth events unto good or bad signs; forbidden by the law of Moses; which notwithstanding sometimes succeeding, according to fears or desires, have left impressions and timorous expectations in credulous minds for ever.

bridged by Mr. W. Bowyer. Mr. Singer, in his *Anecdotes of Spence*, and Mr. D'Israeli, in his *Curiosities of Literature*, have given some very amusing collectanea of the kind. In the Monthly Magazine for 1812, are noticed several singular absurdities in costume; and undoubtedly many other such examples would reward a diligent forage through our numerous periodical publications:—but it is only requisite to compare the *Illustrations* which are constantly issuing from the hands of our artists, with the works they are intended to illustrate, in order to be frequently reminded of the proverbial conclusion of the whole matter;—"*it is even as pleaseth the painter.*"

[8] *hare.*] When a hare crosseth us, wee thinke itt ill lucke shee should soe neerely escape us, and we had not a *dog* as neere to catch her.—*Wr.*

2. That owls and ravens[9] are ominous appearers, and presignifying unlucky events, as Christians yet conceit, was also an augurial conception. Because many ravens were seen when Alexander entered Babylon, they were thought to preominate his death; and because an owl appeared before the battle,[1] it presaged the ruin of Crassus. Which, though decrepit superstitions, and such as had their nativity in times beyond all history, are fresh in the observation of many heads, and by the credulous and feminine party still in some majesty among us. And therefore the emblem of superstition was well set out by Ripa,* in the picture of an owl, an hare, and an old woman. And it no way confirmeth the augurial consideration, that an owl is a forbidden food in the law of Moses; or that Jerusalem was threatened by the raven and the owl, in that expression of Isa. xxxiv; that it should be "a court for owls, that the cormorant and the bittern should possess it, and the owl and the raven dwell in it;" for thereby was only implied their ensuing desolation, as is expounded in the words succeding; "He shall draw upon it the line of confusion, and the stones of emptiness."[2]

* *Iconologia de Cæsare.*

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[9] *ravens*] The raven by his accute sense of smelling, discernes the savour of the dying bodyes at the tops of chimnies, and that makes them flutter about the windows, as they use to doe in the searche of a carcasse. Now bycause whereever they doe this, itt is an evident signe that the sick party seldome escapes deathe: thence ignorant people counte them ominous, as foreboding deathe, and in some kind as causing deathe, whereof they have a sense indeed, but are noe cause at all. Of owles there is not the same opinion, especially in country-men, who thinke as well of them in the barne as of the cat in the house: but in great cityes where they are not frequent, their shriking and horrid note in the night is offensive to women and children, and such as are weake or sicklye.—*Wr.*

On the owl, as an ominous bird, see *The Queen Bee*, ii, 22.—*Jeff.*

[1] *the battle,*] With the Parthians near Charræ.

[2] *emptiness.*] It is rather singular that the *cuckoo* is not honoured with a place here. "Plinie writeth that if, when you first hear the cuckoo, you mark well where your right foot standeth, and take up of that earth, the *fleas* will by no means breed, either in your house or chamber, where any of the same earth is thrown or scattered!" *Hill's Natural and Artificial Conclusions*, 1650. In the North, and perhaps all over England, it is vulgarly accounted an unlucky omen, if you have no money in your pocket, when you hear the cuckoo for the first time in a season. *Queen Bee*, ii, 20.—*Jeff.*

It would perhaps be rather difficult to say under what circumstances most people would *not* consider such a state of pocket an "unlucky omen."

It is a still more common popular divination, for those who are unmarried to count the number of years yet allotted to them of single blessedness, by the number of the cuckoo's notes which they count when first they hear it in the spring.

3. The falling of salt[3] is an authentic presagement of ill-luck, nor can every temper contemn it; from whence notwithstanding nothing can be naturally feared; nor was the same a general prognostick of future evil among the ancients, but a particular omination concerning the breach of friendship. For salt,[4] as incorruptible, was the symbol of friendship, and, before the other service, was offered unto their guests; which, if it casually fell, was accounted ominous, and their amity of no duration. But whether salt[5] were not only a symbol of friendship with man, but also a figure of amity and reconciliation with God, and was therefore observed in sacrifices, is an higher speculation.[6]

4. To break the egg-shell after the meat is out, we are taught in our childhood, and practise it all our lives; which nevertheless is but a superstitious relique, according to the judgment of Pliny; *Huc pertinet ovorum, ut exsorbuerit quisque calices protinus frangi, aut eosdem cochlearibus perforari;* and the intent hereof was to prevent witchcraft;[7] for lest witches[8] should draw or prick their names herein, and vene-

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[3] *salt*] Where salt is deare, 'tis as ill caste on the ground as bread. And soe itt is in France, where they pay for every bushel 40*s.* to the king; and cannot have itt elsewhere: and soe when a glass is spilt 'tis ill lucke to loose a good cup of wine.—*Wr.*

[4] *For salt, &c.*] The hospitality most liberally shown by Mr. Ackerman of the Strand, to the Cossack veteran, Alexander Zemlenuten, in 1815, was highly estimated by the stranger, who in describing his generous reception used the exclamation, "He gave me bread and SALT." This is mentioned in the 41st vol. of the *Monthly Magazine*—and illustrated by a sketch of the opinions and feelings of the ancients respecting this "incorruptible symbol of friendship."—Leonardo da Vinci, in his picture of the last supper, has represented Judas Iscariot as having overturned the salt.—*Jeff.*

Capt. M'Leod, in his voyage of the Alceste, says that in an island near the straits of Gaspar, "salt was received with the same horror as arsenic."

[5] *But whether salt, &c.*] First added in 2nd edition.

[6] *also a figure*] In the first vol. of *Blackwood's Magazine* will be found a paper on the *symbolical* uses of salt, p. 579. In the same volume also occur several papers on the use made formerly of the salt-cellar (which was often large, ornamented and valuable, and placed in the centre of the table) as a point of separation between guests of higher and lower degree.—*To drink below the salt* was a condescension; to attain a seat above it, an object of ambition.—*See Bishop Hall's Satires,* No. vi, b. 28.

Among the regalia used at the king's coronation, is the salt of state, to be placed in the centre of the dinner table, in the form of a castle with towers, richly embellished with various coloured stones, elegantly chased, and of silver, richly gilt. This, it is said, was presented to King Charles II. by the City of Exeter.—*Jeff.*

[7] *to prevent witchcraft.*] "To keep the fairies out," as they say in Cumberland.—*Jeff.*

[8] *lest witches*] Least they perchance might use them for boates (as they thought) to sayle in by night.—*Wr.*

ficiously mischief their persons, they broke the shell, as Dalecampius hath observed.

5. The true lovers' knot[9] is very much magnified, and still retained in presents of love among us; which though in all points it doth not make out, had perhaps its original from the *nodus Herculanus*, or that which was called Hercules his knot, resembling the snaky complication in the *caduceus* or rod of Hermes; and in which form the zone or woollen girdle of the bride was fastened, as Turnebus observeth in his *Adversaria.*

6. When our cheek burneth or ear tingleth,[1] we usually say that some body is talking of us, which is an ancient conceit, and ranked among superstitious opinions by Pliny; *Absentes tinnitu aurium præsentire sermones de se, receptum est;* according to that distich noted by Dalecampius;

Garrula quid totis resonas mihi noctibus auris?
Nescio quem dicis nunc meminisse mei.

Which is a conceit hardly to be made out without the concession of a signifying genius, or universal Mercury, conducting sounds unto their distant subjects, and teaching us to hear by touch.

7. When we desire to confine our words, we commonly say they are spoken under the rose;[2] which expression is commendable, if the rose from any natural property may be the symbol of silence, as Nazianzen seems to imply in these translated verses;

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[9] *lovers' knot*] The true lovers' knot, is magnified, for the moral signification not esily untyed; and for the naturall,—bycause itt is a knot both wayes, that is, two knots in one.—*Wr.*

[1] *tingleth,*] The singing of the eare is frequent upon the least cold seizing on the braine: but to make construction hereof, as yf itt were the silent humme of some absent friendly soule (especially falling most to bee observed in the night, when few friends are awake) is one of the dotages of the heathen.—*Wr.*

[2] *rose,*] Of those that commonlye use this proverb few, besides the learned, can give a reason why they use itt: itt is sufficient that all men knowe what wee meane by that old forme of speeche, thoughe (as of manye other such like) they know not the originall.—*Wr.*

Warburton, (says Brand) commenting on that passage of Shakspeare in Hen. VI.

"From off this briar pluck a white rose with me."

supposes the present saying to have originated in the struggle between the two houses of York and Lancaster; in which secrecy must very often have been enjoined, on various occasions, and probably was so "under the rose."

In Pegge's *Anonymiana*, the symbol of silence is referred to the rose on a cleryman's hat, and derived from the silence which popish priests kept as to the confessions of their people.—*Jeff.*

Utque latet Rosa verna suo putamine clausa,
Sic os vincla ferat, validisque arctetur habenis,
Indicatque suis prolixa silentia labris:

And is also tolerable, if by desiring a secrecy to words spoken under the rose, we only mean in society and compotation, from the ancient custom in symposiack meetings, to wear chaplets of roses about their heads: and so we condemn not the German custom, which over the table describeth a rose in the cieling. But more considerable it is, if the original were such as Lemnius and others have recorded, that the rose was the flower of Venus, which Cupid consecrated unto Harpocrates the God of silence, and was therefore an emblem thereof, to conceal the pranks of venery, as is declared in this tetrastich:

Est rosa flos Veneris, cujus quò facta laterent,
Harpocrati matris, dona dicavit amor;
Inde rosam mensis hospes suspendit amicis,
Convivæ ut sub eâ dicta tacenda sciant.[3]

8. That smoke doth follow the fairest,[4] is an usual saying with us,[5] and in many parts of Europe; whereof although there seem no natural ground, yet is it the continuation of a very ancient opinion, as Petrus, Victorius, and Casaubon have observed from a passage in Athenæus; wherein a parasite thus describeth himself:

To every table first I come,
Whence porridge I am call'd by some:
A Capaneus at stairs I am,
To enter any room a ram;
Like whips and thongs to all I ply,
Like smoke unto the fair I fly.

9. To sit cross-legged,[6] or with our fingers pectinated or shut together, is accounted bad, and friends will persuade us

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[3] *sciant.*] The discourses of the table among true loving friendes require as stricte silence, as those of the bed between the married.—*Wr.*

[4] *fairest,*] The fairest and tenderest complexions are soonest offended with itt: and therefore when they complain, men use this suppling proverb.—*Wr.*

[5] *an usual saying with us,*] An observation of Brand (*Popular Antiquities*) seems to imply that he considered the saying to have become extinct since the days of Browne. This is by no means the case. It is still very common in Norfolk.

[6] *To sit cross-legged,*] There is more incivilitye in this forme of sitting, then malice or superstition; and may sooner move our spleen to a smile then a chafe.—*Wr.*

from it. The same conceit religiously possessed the ancients as is observable from Pliny; *poplites alternis genibus imponere nefas olim:* and also from Athenæus, that it was an old veneficious practice, and Juno is made in this posture to hinder the delivery of Alcmæna. And therefore, as Pierius observeth, in the medal of Julia Pia, the right-hand of Venus was made extended with the inscription of Venus Genitrix; for the complication or pectination of the fingers was an hieroglyphick of impediment, as in that place he declareth.

10. The set and statary times of pairing of nails, and cutting of hair,[7] is thought by many a point of consideration; which is perhaps but the continuation of an ancient superstition. For piaculous[8] it was unto the Romans to pare their nails upon the Nundinæ, observed every ninth day; and was also feared by others in certain days of the week; according to that of Ausonius, *Ungues Mercurio, Barbam Jove, Cypride Crines;* and was one part of the wickedness that filled up the measure of Manasses, when 't is delivered that he observed times.*

11. A common fashion is to nourish hair upon the moles of the face; which is the perpetuation of a very ancient custom; and, though innocently practised among us, may have a superstitious original, according to that of Pliny: *Nævos in facie tondere religiosum habent nunc multi.* From the like might proceed the fears of polling elvelocks[9] or complicated hairs off the heads, and also of locks longer than the other hair; they being votary at first, and dedicated upon occasion; preserved with great care, and accordingly esteemed by others, as appears by that of Apuleius, *adjuro per dulcem capilli tui nodulum.*

* 1 Chron. xxxv.

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[7] *haire,*] They that would encrease the haire maye doe well to observe the increasing moone at all times, but especially in Taurus or Cancer: they that would hinder the growthe, in the decrease of the moone, especially in Capricornus or Scorpio: and this is soe far from superstitious folly that it savours of one guided by the rules of the wise in physic. And what is sayd of the haire may bee as fitly applied to the nayles.—*Wr.* Oh! Mr. Dean!

[8] *piaculous*] Requiring expiation.

[9] *elvelocks*] Such is the danger of cutting a haire in the Hungarian knot that the blood will flow out of itt, as by a quill, and will not bee stanched. And thence perhaps the custome first sprange, though since abused.—*Wr.*

12. A custom there is in some parts of Europe to adorn aqueducts, spouts and cisterns with lions' heads; which though no illaudable ornament, is of an Egyptian genealogy, who practised the same under a symbolical illation. For because, the sun being in Leo, the flood of Nilus was at the full, and water became conveyed into every part, they made the spouts of their aqueducts through the head of a lion.[1] And upon some celestial respects it is not improbable the great Mogul or Indian king both bear for his arms a lion and the sun.[2]

13. Many conceive there is somewhat amiss, and that as we usually say, they are unblest, until they put on their girdle. Wherein (although most know not what they say) there are involved unknown considerations. For by a girdle or cincture are symbolically implied truth, resolution, and readiness unto action, which are parts and virtues required in the service of God. According whereto we find that the Israelites did eat the paschal lamb with their loins girded;[3] and the Almighty challenging Job, bids him gird up his loins like a man. So runneth the expression of Peter, "Gird up the loins of your minds, be sober and hope to the end;" so the high priest was girt with the girdle of fine linen; so is it part of the holy habit to have our loins girt about with truth; and so is it also said concerning our Saviour, "Righteousness shall be the girdle of his loins, and faithfulness the girdle of his reins."

Moreover by the girdle, the heart and parts which God requires are divided from the inferior and concupiscential organs; implying thereby a memento, unto purification and cleanness of heart, which is commonly defiled from the concupiscence and affection of those parts; and therefore unto this day the Jews do bless themselves when they put on their

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• Isa. xi.

[1] *lion.*] Architects practise this forme still, for noe other reason then the beautye of itt.—*Wr.*

[2] *sun.*] These two are the emblems of majestye: the sonne signifying singularity of incommunicable glory: the lyon sole soveraintye, or monarchall power; and therefore most sutable to their grandour.—*Wr.*

[3] *girded*] I suppose this innocent custome is most comely and most Christian, partly in observation of the old precept of St. Paule, [Ephes. vi, 14,] and partly in imitation of him in the first of the revelation, who is described doubly girt, about the paps, and about the loyns. See the Icon of St. Paul before his Epistles, in the Italian Testament, at Lions, 1556.—*Wr.*

The Israelites ate the paschal lamb with their loins girt, as being in readiness to take their journey (from Egypt).

zone or cincture. And thus may we make out the doctrine of Pythagoras, to offer sacrifice with our feet naked, that is, that our inferior parts, and farthest removed from reason, might be free, and of no impediment unto us. Thus Achilles, though dipped in Styx, yet, having his heel untouched by that water, although he were fortified elsewhere, he was slain in that part, as only vulnerable in the inferior and brutal part of man. This is that part of Eve and her posterity the devil still doth bruise, that is, that part of the soul which adhereth unto earth, and walks in the path thereof. And in this secondary and symbolical sense it may be also understood, when the priests in the law washed their feet before the sacrifice; when our Saviour washed the feet of his disciples, and said unto Peter, "If I wash not thy feet, thou hast no part in me." And thus is it symbolically explainable, and implieth purification and cleanness, when in the burnt-offerings the priest is commanded to wash the inwards and legs thereof in water; and in the peace and sin-offerings, to burn the two kidneys, the fat which is about the flanks, and as we translate it, the caul above the liver. But whether the Jews, when they blessed themselves, had any eye unto the words of Jeremy, wherein God makes them his girdle; or had therein any reference unto the girdle, which the prophet was commanded to hide in the hole of the rock of Euphrates, and which was the type of their captivity, we leave unto higher conjecture.

14. We shall not, I hope, disparage the resurrection of our Redeemer, if we say the sun doth not dance on Easter-day. And though we would willingly assent unto any sympathetical exultation, yet cannot conceive therein any more than a tropical expression. Whether any such motion there were in that day wherein Christ arose, Scripture hath not revealed, which hath been punctual in other records concerning solary miracles; and the Areopagite, that was amazed at the eclipse, took no notice of this. And if metaphorical expressions go so far, we may be bold to affirm, not only that one sun danced, but two arose that day:—that light appeared at his nativity, and darkness at his death, and yet a light at both; for even that darkness was a light unto the Gentiles,

illuminated by that obscurity:—that it was the first time the sun set above the horizon:—that although there were darkness above the earth, there was light beneath it; nor dare we say that hell was dark if he were in it.

15. Great conceits are raised of the involution or membranous covering, commonly called the silly-how, that sometimes is found about the heads of children upon their birth, and is therefore preserved with great care, not only as medical in diseases, but effectual in success, concerning the infant and others, which is surely no more than a continued superstition. For hereof we read in the *Life of Antoninus*, delivered by Spartianus, that children are born sometimes with this natural cap; which midwives were wont to sell unto credulous lawyers, who had an opinion it advantaged their promotion.[4]

But to speak strictly, the effect is natural, and thus may be conceived: animal conceptions have (largely taken) three teguments, or membranous films, which cover them in the womb; that is, the *chorion*, *amnios*, and *allantois*. The *chorion* is the outward membrane, wherein are implanted the veins, arteries, and umbilical vessels, whereby its nourishment is conveyed. The *allantois* is a thin coat seated under the *chorion*, wherein are received the watery separations conveyed by the *urachus*, that the acrimony thereof should not offend the skin. The *amnios* is a general investment, containing the sudorous or thin serosity perspirable through the skin. Now about the time when the infant breaketh these coverings, it sometimes carrieth with it, about the head, a part of the *amnois* or nearest coat; which, saith Spigelius,* either proceedeth from the toughness of the membrane, or weakness of the infant that cannot get clear thereof. And therefore, herein significations are natural and concluding upon the infant, but not to be extended unto magical signalities, or any other person.

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[4] *promotion.*] By making them gracious in pleadinge: to whom I thinke itt was sufficient punishment, that they bought not wit, but folly so deare.—*Wr.*

Even till recently the opinion has been held, that a child's caul, (silly-how) would preserve a person from drowning! In the *Times* of May 6th, 1814, were three advertisements of fine cauls to be sold at considerable prices specified. The following appear at subsequent dates:—"To voyagers. A child's caul to be sold for 15 guineas. Apply, &c." *Times*, Dec. 8th, 1819.

Another for 16 guineas: *Times*, Dec. 16th, 1829.

"A child's caul to be disposed of. The efficacy of this wonderful production of nature, in preserving the possessor from all accidents by sea and land, has long been experienced, and is universally acknowledged: the present phenomenon was produced on the 4th of March inst. and covered not only the head, but the whole body and limbs of a fine female infant, the daughter of a respectable master tradesman. Apply at No. 49, Gee Street, Goswell Street, where a reference will be given to the eminent physician who officiated at the birth of the child." *Times*, March 9th, 1820. Another advertised, £6, *Times*, Sept. 5th, 1820. Another for 12 guineas, *ditto*, Jan. 23rd, 1824. See *New Monthly Mag.* May, July, Aug. 1814.

Intellect, surely, was not yet *in full march* at this period.

16. That it is good to be drunk once a month, is a common flattery of sensuality, supporting itself upon physick, and the healthful effects of inebriation.[5] This indeed seems plainly affirmed by Avicenna, a physician of great authority, and whose religion, prohibiting wine, could less extenuate ebriety. But Averroes, a man of his own faith, was of another belief; restraining his ebriety unto hilarity, and in effect making no more thereof than Seneca commendeth, and was allowable in Cato; that is, a sober incalescence and regulated æstuation from wine; or, what may be conceived between Joseph and his brethren, when the text expresseth they were merry, or drank largely; and whereby indeed the commodities set down by Avicenna, that is, alleviation of spirits, resolution of superfluities, provocation of sweat and urine, may also ensue. But as for dementation, sopition of reason and the diviner particle, from drink; though American religion approve, and Pagan piety of old hath practised it, even at their sacrifices, Christian morality and the doctrine of Christ will not allow. And surely that religion which excuseth the fact of Noah, in the aged surprisal of six hundred years, and unexpected inebriation from the unknown effects of wine,

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* *De Formato Fœtu.*

[5] *inebriation.*] Noe man could more properlye inveighe against this beastly sinn, then a grave and learned physitian, were itt for noe more but the acquitting his noble faculty from the guilt of countenancinge a medicine soe lothsome and soe odious. Certainlye itt cannot but magnifie his sober spirit, that does make his own facultye (as Hagar to Sarah) vayle to divinity, the handmayd to her lady and mistresse: especially seeinge the naturall man cannot but confesse that itt is base, unworthye the divine ofspring of the human soule, which is immortall, to put of itself for a moment, or to assume the shape, or much less the guise of (the uglyest beast) a swine, for any supposable benefit accruing therby to this outward carcasse, especially when itt may bee far better relieved by soe many excellent, easie, warrantable wayes of physick.—*Wr.*

"Drunkenness (methinks) can neither become a wise philosopher to prescribe, nor a virtuous man to practise."—*Bp Hall, Heaven upon Earth*, § 3.

will neither acquit ebriosity[6] nor ebriety, in their known and intended perversions.

And indeed although sometimes effects succeed which may relieve the body, yet if they carry mischief or peril unto the soul, we are therein restrainable by divinity, which circumscribeth physick, and circumstantially determines the use thereof. From natural considerations physick commendeth the use of venery; and haply incest, adultery, or stupration, may prove as physically advantageous as conjugal copulation; which notwithstanding must not be drawn into practice. And truly effects, consequents, or events which we commend, arise ofttimes from ways which we all condemn. Thus from the fact of Lot we derive the generation of Ruth and blessed nativity of our Saviour; which notwithstanding did not extenuate the incestuous ebriety of the generator. And if, as is commonly urged, we think to extenuate ebriety from the benefit of vomit oft succeeding, Egyptian sobriety will condemn us, which purged both ways twice a month without this perturbation; and we foolishly contemn the liberal hand of God, and ample field of medicines which soberly produce that action.

17. A conceit there is, that the devil commonly appeareth with a cloven hoof:[7] wherein, although it seem excessively ridiculous, there may be somewhat of truth; and the ground thereof at first might be his frequent appearing in the shape of a goat, which answers that description. This was the opinion of ancient Christians concerning the apparition of Panites, fauns, and satyrs; and in this form we read of one that appeared unto Antony in the wilderness. The same is also confirmed from expositions of Holy Scriptures; for whereas it is said,* "Thou shalt not offer unto devils," the

* Levit. xvii.

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[6] *ebriosity.*] Habitual drunkenness.

[7] *hoof.*] 'T is remarkable that of all creatures the devil choze the cloven-footed, wherein to appeare, as satyrs, and goatishe monsters: the swine whereon to worke his malice: and the calves wherein to bee worshiped as at Dan and Bethel. For which cause the Spirit of God cald those calves (raised by Jeroboam for worship) devils: 2 Chron. xi, 15. And that he chose his priests of the lowest of the people was very suitable. For where their God was a calfe, 'twas not improper that a butcher should bee the preiste.—*Wr.*

original word is *seghnirim*, that is, rough and hairy goats, because in that shape the devil most often appeared; as is expounded by the Rabbins, and Tremellius hath also explained; and as the word Ascimah, the god of Emath, is by some conceived. Nor did he only assume this shape in elder times, but commonly in latter times, especially in the place of his worship, if there be any truth in the confession of witches, and as in many stories it stands confirmed by Bodinus.* And therefore a goat is not improperly made the hieroglyphick of the devil, as Pierius hath expressed it. So might it be the emblem of sin, as it was in the sin-offering; and so likewise of wicked and sinful men, according to the expression of Scripture in the method of the last distribution; when our Saviour shall separate the sheep from the goats, that is, the sons of the Lamb from the children of the devil.

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* In his *Dæmonomania*.

CHAPTER XXIV.

Of Popular Customs, Opinions, &c.; of the Prediction of the Year ensuing from the Insects in Oak Apples; that Children would naturally speak Hebrew; of refraining to kill Swallows; of Lights burning dim at the Apparition of Spirits; of the wearing of Coral; of Moses' Rod in the Discovery of Mines; of discovering doubtful matters by Book or Staff.

1. THAT temperamental dignotions, and conjecture of prevalent humours, may be collected from spots in our nails, we are not averse to concede; but yet not ready to admit sundry divinations vulgarly raised upon them. Nor do we observe it verified in others, what Cardan* discovered as a property in himself; to have found therein some signs of most events that ever happened unto him. Or that there is much considerable in that doctrine of cheiromancy, that spots in the top of the nails do signify things past; in the middle, things present; and at the bottom, events to come. That white specks presage our felicity; blue ones our misfortunes. That those in the nail of the thumb have significations of honour; those in the forefinger of riches; and so respectively in other fingers, (according to planetical relations, from whence they receive their names,) as Tricassus † hath taken up, and Picciolus well rejecteth.[8]

We shall not proceed to query, what truth there is in palmistry, or divination from those lines in our hands, of high denomination. Although if any thing be therein, it seems not confinable unto man; but other creatures are also considerable; as is the forefoot of the mole, and especially of the monkey, wherein we have observed the table-line, that of life and of the liver.

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* *De Varietate Rerum.*

† *De Inspectione Manûs.*

[8] *spots, &c.*] This saying has remained to the present day. Such superstitions will only cease when the ignorance of the lower orders, through whom they find their way into the nursery, shall have given place to the general diffusion of knowledge—especially of *religious* knowledge.

2. That children committed unto the school of nature, without institution, would naturally speak the primitive language of the world, was the opinion of ancient heathens, and continued since by Christians; who will have it our Hebrew tongue, as being the language of Adam. That this were true, were much to be desired, not only for the easy attainment of that useful tongue, but to determine the true and primitive Hebrew. For whether the present Hebrew be the unconfounded language of Babel, and that which, remaining in Heber, was continued by Abraham and his posterity;[9] or

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[9] *For whether the present Hebrew, &c.*] On the subject of this passage, patient and learned ingenuity has been exercised in successive ages to afford us—only hypothesis and conjectures. And though it must be admitted that nothing more satisfactory can, in the nature of things, be expected, yet is it certain, that in order to constitute a *thorough* competency to propose even these, nothing less would suffice than the most profound acquaintance with history and geography from their remotest traces; and an erudition competent to the analysis and classification, not only of the languages of antiquity, but of those living tongues and dialects which now cover the earth, and to which modern discoveries are daily making additions. On the question, whether the confusion of tongues left one section or family of the existing population in possession of the pure and unadulterated antediluvian language, I cannot perceive the materials for constructing even a conjecture. As to the theory here proposed, on which Abraham might understand those nations among whom he sojourned, by his own means of philological approximation, I cannot help feeling that it is almost like claiming for the patriarch an exemption from the operation of the confusion of tongues. Among the most recent works on this general class of questions, is Mr. Beke's *Origines Biblicæ*, a work in which some novel hypotheses have called down on their author the criticism of those who differ from him; while at the same time the tribute of praise has not been denied to the ability he has displayed, and especially to that spirit of reverence for scriptural authority which pervades his work.

Mr. Beke first states his opinion,—in opposition to the more usual hypothesis which considers the languages of the Jews, Arabians, and other nations of similar character, to be the Semitic or Shemitish family of languages,—that this origin may more probably be assigned to those of Tibet, China, and all those nations of the east and south-east of Asia, which are manifestly distinct from the Japhthitish Hindoos and Tartars; including the islands of the Indian Archipelago and the South Seas. He subsequently gives the following reasons for attributing to the usually-called Semitic languages (namely, Hebrew, Chaldee, Syriac, Arabic, and Ethiopic of Abyssinia,) "a Mitzrite, and therefore Hamitish origin." "When the Almighty was pleased to call Abraham from his native country, the land of the Arphaxidites, or Chaldees, first into the country of Aram, and afterwards into that of Canaan, one of two things must necessarily have had place; either that the inhabitants of these latter countries spoke the same language as himself, or else that he acquired the knowledge of the foreign tongues spoken by these people during his residence in the countries in which they were vernacular. That they all made use of the same language cannot be imagined. Even if it be assumed that the descendants of Arphaxad, Abraham's ancestor, and the Aramites, in whose territories Terah and his family first took up their residence, spoke the same language, or, at the furthest, merely dialects of the same original rather the language of Phœnicia and Canaan, wherein he lived, some learned men I perceive do yet remain unsatisfied. Although I confess probability stands fairest for the former; nor are they without all reason, who think that at the confusion of tongues, there was no constitution of a new speech in

Shemitish tongue, we cannot suppose that this language would have resembled those which were spoken by the Hamitish Canaanites, and Philistines, in whose countries Abraham afterwards sojourned, unless we at the same time contend that the confusion of tongues at Babel was practically inoperative; a conclusion, I apprehend, in which we should be directly opposed to the express words of Scripture: Gen. xi, 1—9.

"We have no alternative, therefore, as it would seem, but to consider (as, in fact, is the plain and obvious interpretation of the circumstances,) that Abraham having travelled from his native place (a distance of above 500 miles,) to the 'south country,' the land of the Philistines, where he 'sojourned many days,' he and his family would have acquired the language of the people amongst whom they thus took up their residence. But it may be objected that Abraham and his descendants, although living in a foreign country, and necessarily speaking the language of that country in their communications with its inhabitants, would also have retained the Aramitish tongue spoken in Haran, and that the intercourse between the two countries having been kept up, first by the marriage of Isaac with his cousin Rebekah, and subsequently by that of Jacob also with his cousins Leah and Rachel, and more especially from the circumstance of Jacob's having so long resided in Padan-Aram, and of all his children, with the exception of Benjamin, having been born there, the *family* language of Jacob, at the time of his return into the 'south country,' must indisputably have been the Aramitish. It may be argued farther, that although for the purpose of holding communication with the Canaanities and the Philistines, it was necessary to understand their languages also, yet that the language most familiar to Jacob and his household continued to be the Aramitish, until the period when they all left Canaan to go down into Mitzraim; and hence it might be contended that no good reason exists for opposing the generally received opinion, that the Hebrew is the same Aramitish tongue which was taken by the Israelites into Mitzraim, it being only necessary to suppose that the language was preserved substantially without corruption during the whole time of their sojourning in that country.

"But even admitting this argument, which however I am far from allowing to be conclusive; how are we to explain the origin of the Arabic language? This is clearly not of Aramitish derivation. It is the language which was spoken by the countrymen of Hagar, amongst whom Ishmael was taken by her to reside, and with whom he and his descendants speedily became mixed up and completely identified. Among these people it is not possible that the slightest portion of the Aramitish tongue of Abraham should have existed before the time of Ishmael; nor can be conceived that the Mitzritish descendants of the latter would have acquired that language through him, even supposing (though I consider it to be far from an established fact) that the Aramitish had continued to be the *only* language which was spoken by Abraham's family during the whole of his residence in the south country among the Canaanites and Philistines; and supposing, also, that Ishmael acquired a perfect knowledge of that language, *and of no other*, (which, however, is very improbable, his mother being a Mitzrite,) from the circumstance of his childhood having been passed in his father's house.

"I apprehend, indeed, that the Mitzritish origin of the Arabic language is a fact which cannot be disputed; and if this fact be conceded, there remains no alternative but to admit—indeed it is a mere truism to say—that the Hebrew, which is a cognate dialect with the Arabic, must be of common origin with that language, and consequently of Mitzritish derivation also............The fact of the striking coincidences which may be found in the language of the Berbers, in Northern Africa, with the languages of cognate origin with the Hebrew, is in the highest degree confirmatory of the Hamitish origin which I attribute to the whole of them; and it becomes the more par-every family, but a variation and permutation of the old; out of one common language raising several dialects, the primitive tongue remaining still entire. Which they who retained, might make a shift to understand most of the rest. By virtue whereof in those primitive times and greener confusions, Abraham, of the family of Heber, was able to converse with the Chaldeans, to understand Mesopotamians, Canaanites, Philistines, and Egyptians: whose several dialects he could reduce unto the original and primitive tongue, and so be able to understand them.

3. Though useless unto us, and rather of molestation,[1] we commonly refrain from killing swallows, and esteem it unlucky[2] to destroy them: whether herein there be not a Pagan relick, we have some reason to doubt. For we read in Ælian, that these birds were sacred unto the Penates or household gods of the ancients, and therefore were preserved.* The same they also honoured as the nuncios of the spring; and we find in Athenæus that the Rhodians had a solemn song to welcome in the swallow.

4. That candles and lights burn dim and blue at the apparition of spirits, may be true, if the ambient air be full of sulphureous spirits, as it happeneth ofttimes in mines, where

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* The same is extant in the 8th of Athenæus.

ticularly so, on the consideration that I derive the Berbers themselves directly from the country where I conceive the Israelites to have acquired their language."

As to the nature and degree of change which took place in the existing language at its confusion, Mr. Beke contends, "that the idea of an absolute and permanent change of dialect is more strictly in accordance with the literal meaning of the scriptural account of the confusion of tongues, than the supposition that the consequences of that miraculous occurrence were of a temporary nature only, and that the whole of the present diversities in the languages of the world are to be referred to the gradual operation of subsequent causes."

In the foregoing sentence, and still more in the disquisition which precedes it, Mr. Beke's opinion is in opposition to a very high authority both as a natural historian and a philologist,—the Rev. W. D. Conybeare, who supports, (in his *Elementary Course of Lectures, on the Criticism, Interpretation, and Leading Doctrines of the Bible,*) the more usually received opinion, that Hebrew, and the cognate languages, are of Shemitish origin.

[1] *useless, &c.*] This is a most undeserved censure. The swallows are very useful in destroying myriads of insects, which would be injurious.

[2] *and esteem it unlucky, &c.*] A similar superstition attaches to the robin and the wren;—the tradition is, that if their nests are robbed, the cows will give bloody milk;—schoolboys rarely are found hardy enough to commit such a depredation on these birds, of which the common people in some parts of England have this legend—

Robinets and Jenny Wrens,
Are God Almighty's cocks and hens.

damps and acid exhalations are able to extinguish them. And may be also verified, when spirits do make themselves visible by bodies of such effluviums. But of lower consideration is the common foretelling of strangers, from the fungous parcels about the wicks of candles; which only signifieth a moist and pluvious air about them, hindering the avolation of the light and favillous particles; whereupon they are forced to settle upon the snast.[3]

5. Though coral doth properly preserve and fasten the teeth in men, yet is it used in children to make an easier passage for them: and for that intent is worn about their necks. But whether this custom were not superstitiously founded, as presumed an amulet or defensative against fascination, is not beyond all doubt. For the same is delivered by Pliny;* *Aruspices religiosum coralli gestamen amoliendis periculis arbitrantur; et surculi infantia alligati, tutelam habere creduntur.*[4]

6 A strange kind of exploration and peculiar way of rhabdomancy is that which is used in mineral discoveries; that is, with a forked hazel, commonly called Moses' rod, which freely held forth, will stir and play if any mine be under it. And though many there are who have attempted to make it good, yet until better information, we are of opinion with Agricola,† that in itself it is a fruitless exploration,[5] strongly

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* Lib. xxxii.

† *De Re Metallica*, lib. ii.

[3] *snast.*] The Norfolk (and perhaps other *folk's*) vulgar term, signifying the burnt portion of the wick of the candle; which, when sufficiently lengthened by want of snuffing, becomes crowned with a cap of the purest lamp-black, called here, "the fungous parcels, &c."

[4] *That temperamental, &c.*] The first five sections of this chapter were first added in the 2nd edit.

[5] *exploration.*] This is worthy of note bycause itt is averred by manye authors of whom the world hath a great opinion. —*Wr.*

From a paper by Mr. Wm. Philips, in *Tilloch's Philosophical Magazine*, vol. xiii, p. 309, on the divining rod, it appears that it was ably advocated by De Thouvenel, in France, in the 18th century, and soon after—in our own country—by a philosopher of unimpeachable veracity, and a chemist, Mr. Wm. Cookworthy of Plymouth. Pryce also informs us, p. 123, of his *Mineralogia Cornubiensis*, that many mines have been discovered by means of the rod, and quotes several; but, after a long account of the mode of cutting, tying, and using it, interspersed with observations on the discriminating faculties of constitutions and persons in its use, altogether rejects it, because 'Cornwall is so plentifully stored with tin and copper lodes, that some accident every week discovers to us a fresh vein,' and because 'a grain of metal attracts the rod as strongly as a pound,' for which reason 'it has been found to dip equally to a poor as to a rich lode.'—See *Trans. Geol. Soc.* ii, 123.

scenting of Pagan derivation, and the *virgula divina*, proverbially magnified of old. The ground whereof were the magical rods in poets, that of Pallas in Homer, that of Mercury that charmed Argus, and that of Circe which transformed the followers of Ulysses. Too boldly usurping the name of Moses' rod, from which notwithstanding, and that of Aaron, were probably occasioned the fables of all the rest. For that of Moses must needs be famous unto the Egyptians; and that of Aaron unto many other nations, as being preserved in the ark, until the destruction of the temple built by Solomon.

7. A practice there is among us to determine doubtful matters, by the opening[6] of a book, and letting fall a staff, which notwithstanding are ancient fragments of Pagan divinations. The first an imitation of *sortes Homericæ*, or *Virgilianæ*,[7] drawing determinations from verses casually occurring. The same was practised by Severus, who entertained ominous hopes of the empire, from that verse in Virgil, *Tu regere imperio populos, Romane, memento;* and Gordianus, who reigned but few days, was discouraged by another; that is, *Ostendunt terris hunc tantùm fata, nec ultra esse sinunt.*[8]

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[6] *opening.*] For the casual opening of a Bible, see *Cardan. de Varietate*, p. 1040.—*Wr.*

[7] *Virgilianæ.*] King Charles I. tried the *sortes Virgilianæ*, as is related by Welwood in the following passage:—

"The King being at Oxford during the civil wars, went one day to see the public library, where he was showed among other books, a Virgil nobly printed, and exquisitely bound. The Lord Falkland, to divert the king, would have his majesty make a trial of his fortune by the *sortes Virgilianæ*, which every body knows was an usual kind of augury some ages past. Whereupon the king opening the book, the period which happened to come up, was that part of Dido's imprecation against Æneas; which Mr. Dryden translates thus:

Yet let a race untam'd, and haughty foes,
His peaceful entrance with dire arms oppose.
Oppress'd with numbers in th' unequal field,
His men discourag'd and himself expell'd,
Let him for succour sue from place to place,
Torn from his subjects, and his son's embrace,
First let him see his friends in battle slain,
And their untimely fate lament in vain:
And when at length the cruel war shall cease,
On hard conditions may he buy his peace;
Nor let him then enjoy supreme command,
But fall untimely by some hostile hand,
And lie unburied in the common sand.

It is said King Charles seemed concerned at this accident; and that the Lord Falkland observing it, would likewise try his own fortune in the same manner; hoping he might fall upon some passage that could have no relation to his case, and thereby divert the king's thoughts from any impression the other might have upon him; But the place that Falkland stumbled upon, was yet more suited to his destiny than the other had been to the king's; being the following expressions of Evander, upon the untimely death of his son Pallas, as they are translated by the same hand.

O Pallas! thou hast fail'd thy plighted word,
To fight with reason; not to tempt the sword.
I warn'd thee but in vain, for well I knew
What perils youthful ardour would pursue;
That boiling blood would carry thee too far,
Young as thou wert in dangers, raw to war.
O curst essay of arms, disast'rous doom,
Prelude of bloody fields and fights to come.

[8] *sinunt.*] Of all other, I cannot but admire that ominous dreame of Constans,

Nor was this only performed in heathen authors, but upon the sacred text of Scripture, as Gregorius Turonensis hath left some account; and as the practice of the Emperor Heraclius, before his expedition into Asia Minor, is delivered by Cedrenus.

As for the divination or decision from the staff, it is an augurial relick, and the practice thereof is accused by God himself; "My people ask counsel of their stocks, and their staff declareth unto them." * Of this kind of rhabdomancy was that practised by Nebuchadnezzar in that Chaldean miscellany, delivered by Ezekiel; "The King of Babylon stood at the parting of the way, at the head of two ways to use divination, he made his arrows bright, he consulted with images, he looked in the liver; at the right hand were the divinations of Jerusalem." † That is, as Estius expounded it, the left way leading unto Rabbah, the chief city of the Ammonites, and the right unto Jerusalem, he consulted idols and entrails, he threw up a bundle of arrows to see which way they would light, and falling on the right hand he marched towards Jerusalem. A like way of belomancy or divination by arrows hath been in request with Scythians, Alanes, Germans, with the Africans and Turks of Algier. But of another nature was that which was practised by Elisha, ‡ when, by an arrow shot from an eastern window, he presignified the destruction of Syria; or when, according unto the three strokes of Joash, with an arrow upon the ground, he foretold the number of his victories. For thereby the Spirit of God particulared the same, and determined the strokes of the king, unto three, which the hopes of the prophet expected in twice that number.[9]

8. We cannot omit to observe the tenacity of ancient customs, in the nominal observation of the several days of the week, according to Gentile and Pagan appellations; § for the

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* Hosea iv.

† Ezek. xxiv.

‡ 2 Kings xiii, xv.

§ *Dion. Cassii*, lib. xxxvii.

the Emperor, the sonne of Heracleonas, and father of Pogonatus, anno imperii, 13, who beinge to fight with barbarians the next morne, near Thessalonica, thought hee heard one cryinge Θὲς ἀλλῷ Νικὴν, which the next day proved too true —*Wr.*

[9] *As for the divination, &c.*] This paragraph, and the three following, were first added in the second edition.

original is very high, and as old as the ancient Egyptians, who named the same according to the seven planets, the admired stars of heaven, and reputed deities among them. Unto every one assigning a several day; not according to their celestial order, or as they are disposed in heaven, but after a *diatesseron* or musical fourth. For beginning Saturday with Saturn, the supremest planet, they accounted by Jupiter and Mars unto Sol, making Sunday. From Sol in like manner by Venus and Mercury unto Luna, making Monday: and so through all the rest. And the same order they confirmed by numbering the hours of the day unto twenty-four, according to the natural order of the planets. For beginning to account from Saturn, Jupiter, Mars, and so about unto twenty-four, the next day will fall unto Sol; whence accounting twenty-four, the next will happen unto Luna, making Monday: and so with the rest, according to the account and order observed still among us.

The Jews themselves, in their astrological considerations, concerning nativities and planetary hours, observe the same order upon as witty foundations. Because, by an equal interval, they make seven triangles, the bases whereof are the seven sides of a septilateral figure, described within a circle. That is, if a figure of seven sides be described in a circle, and at the angles thereof the names of the planets be placed in their natural order on it; if we begin with Saturn, and successively draw lines from angle to angle, until seven equicrural triangles be described, whose bases are the seven sides of the septilateral figure; the triangles will be made by this order.* The first being made by Saturn, Sol, and Luna, that is, Saturday, Sunday, and Monday; and so the rest in the order still retained.

But thus much is observable, that however in celestial considerations they embraced the received order of the planets, yet did they not retain either characters, or names in common use amongst us; but declining human denominations, they assigned them names from some remarkable qualities; as is very observable in their red and splendent planets, that is, of Mars and Venus. But the change of their names †

* *Cujus icon apud Doct. Gaffarel,* cap. ii, *et Fabrit. Pad.*

† *Maadim. Nogah.*

disparaged not the consideration of their natures; nor did they thereby reject all memory of these remarkable stars, which God himself admitted in his tabernacle, if conjecture will hold concerning the golden candlestick, whose shaft resembled the sun, and six branches the planets about it.

9. We are unwilling to enlarge concerning many other; only referring unto sober examination, what natural effects can reasonably be expected, when to prevent the *ephialtes* or night-mare, we hang up an hollow stone in our stables; when for amulets against agues we use the chips of gallows and places of execution.[1] When for warts we rub our hands before the moon,[2] or commit any maculated part unto the

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[1] *execution.*] See what the Lord St. Alban's sayes for the certaintye of this experimente made upon himself, in his natural historye, centurye 10th, and 997 experiment.—*Wr.*

"The sympathy of individuals, that have been entire, or have touched, is of all others the most incredible; yet according unto our faithful manner of examination of nature, we will make some little mention of it. The taking away of warts, by rubbing them with somewhat that afterwards is put to waste and consume, is a common experiment; and I do apprehend it the rather because of my own experience. I had from my childhood a wart upon one of my fingers: afterwards, when I was about sixteen years old, being then at Paris, there grew upon both my hands a number of warts at the least an hundred, in a month's space. The English ambassador's lady, who was a woman far from superstition, told me one day, she would help me away with my warts: whereupon she got a piece of lard with the skin on, and rubbed the warts all over with the fat side; and amongst the rest, that wart which I had had from my childhood: then she nailed the piece of lard, with the fat towards the sun, upon a post of her chamber window, which was to the south. The success was, that within five weeks space all the warts went quite away: and that wart which I had so long endured, for company. But at the rest I did little marvel, because they came in a short time, and might go away in a short time again: but the going away of that which had stayed so long doth yet stick with me. They say the like is done by the rubbing of warts with a green elder stick and then burying the stick to rot in muck. It would be tried with corns and wens, and such other excrescences. I would have it also tried with some parts of living creatures that are nearest the nature of excrescences; as the combs of cocks, the spurs of cocks, the horns of beasts, *etc.* And I would have it tried both ways; both by rubbing those parts with lard, or elder, as before; and by cutting off some piece of those parts, and laying it to consume: to see whether it will work any effect towards the consumption of that part which was once joined with it."—*Natural History*, Cent. x, No. 997.

[2] *When for warts we rub our hands, &c.*] Hear what Sir Kenelme Digby says of this matter in his *Late Discourse, &c. Touching the Cure of wounds by the Powder of Sympathy*; &c. 12mo. 1658.

"I cannot omit to add hereunto another experiment, which is, that we find by the effects, how the rays of the moon are cold and moist. It is without controversy, that the luminous parts of those rays come from the sun, the moon having no light at all within her, as her eclipses bear witness, which happen when the earth is opposite betwixt her and the sun; which interposition suffers her not to have light from his rays. The beams then which come from the moon, are those of the sun, which glancing upon her, reflect upon us, and so bring with them the atoms of that cold and humid star, which participates of the source whence they come: therefore if one should expose a hollow bason, or glass, to assemble them, one shall find, that whereas those of the sun do burn by such a conjuncture, these touch of the dead. What truth there is in those common female doctrines, that the first rib of roast beef powdered, is a peculiar remedy against fluxes;—that to urine upon earth newly cast up by a mole, bringeth down the menses in women;—that if a child dieth, and the neck becometh not stiff, but for many hours remaineth lithe and flaccid, some other in the same house will die not long after;—that if a woman with child looketh upon a dead body, her child will be of a pale complexion;[3]—our learned and critical philosophers might illustrate, whose exacter performances our adventures do but solicit: meanwhile, I hope they will plausibly receive our attempts, or candidly correct our misconjectures.[4]

Disce, sed ira cadat naso, rugosaque sanna,
Dum veteres avias tibi de pulmone revello.

clean contrary do refresh and moisten in a notable manner, leaving an aquatic and viscous glutining kind of sweat upon the glass. One would think it were a folly that one should offer to wash his hands in a well-polished silver bason, wherein there is not a drop of water, yet this may be done by the reflection of the moonbeams only, which will afford a competent humidity to do it; but they who have tried this, have found their hands, after they are wiped, to be much moister than usually: *but this is an infallible way to take away warts from the hands, if it be often used.*"

[3] *What truth there is, &c.*] This sentence was first added, and the arrangement of the paragraphs in the chapter altered, in the 6th edit.

[4] *misconjectures.*] The perusal of the two preceding chapters, calls powerfully to mind the following lively and eloquent "*character of the superstitious,*" drawn by our author's pious and learned friend, Bishop Hall.

"Superstition is godless religion, devout impiety. The superstitious is fond in observation, servile in fear: he worships God, but as he lists: he gives God what he asks not, more than he asks, and all but what he should give; and makes more sins than the ten commandments. This man dares not stir forth, till his breast be crossed, and his face sprinkled. If but a hare cross him the way, he returns; or, if his journey began, unawares, on the dismal day, or if he stumbled at the threshold. If he see a snake unkilled, he fears a mischief: if the salt fall towards him, he looks pale and red; and is not quiet, till one of the waiters have poured wine on his lap: and when he sneezeth, thinks them not his friends that uncover not. In the morning he listens whether the crow crieth even or odd; and, by that token, presages of the weather. If he hear but a raven croak from the next roof, he makes his will; or if a bittour fly over his head by night: but if his troubled fancy shall second his thoughts with the dream of a fair garden, or green rushes, or the salutation of a dead friend, he takes leave of the world, and says he cannot live. He will never set to sea but on a Sunday; neither ever goes without an *erra pater* in his pocket. St. Paul's day, and St. Swithin's, with the twelve, are his oracles; which he dares believe against the almanack. When he lies sick on his death-bed, no sin troubles him so much, as that he did once eat flesh on a Friday: no repentance can expiate that; the rest need none. There is no dream of his, without an interpretation, without a prediction; and, if the event answer not his exposition, he expounds it according to the event. Every dark grove and pictured wall strikes him with an awful, but carnal devotion. Old wives and stars are his counsellors: his night-spell is his guard, and charms, his physicians. He wears Paracelsian characters for the tooth-ache: and a little hallowed wax is his antidote for all evils. This man is strangely credulous; and calls impossible things, miraculous: if he hear that some sacred block speaks, moves, weeps, smiles, his bare feet carry him thither with an offering; and, if a danger miss him in the way, his saint hath the thanks. Some ways he will not go, and some he dares not; either there are bugs, or he feigneth them: every lantern is a ghost, and every noise is of chains. He knows not why, but his custom is to go a little about, and to leave the cross still on the right hand. One event is enough to make a rule: out of these rules he concludes fashions proper to himself; and nothing can turn him out of his own course. If he have done his task, he is safe: it matters not with what affection. Finally, if God would let him be the carver of his own obedience, he could not have a better subject: as he is, he cannot have a worse." —*Bishop Hall's Characters of Vices; Works by Pratt*, vol. vii, 102.

THE SIXTH BOOK:

THE PARTICULAR PART CONTINUED.

OF POPULAR AND RECEIVED TENETS, COSMOGRAPHICAL, GEOGRAPHICAL, AND HISTORICAL.

CHAPTER I.

Concerning the beginning of the World, that the time thereof is not precisely known, as commonly it is presumed.

CONCERNING the world and its temporal circumscriptions, whoever shall strictly examine both extremes, will easily perceive, there is not only obscurity in its end, but its beginning; that as its period is inscrutable, so is its nativity indeterminable; that as it is presumption to enquire after the one, so is there no rest or satisfactory decision in the other. And hereunto we shall more readily assent, if we examine the information, and take a view of the several difficulties in this point; which we shall more easily do, if we consider the different conceits of men, and duly perpend the imperfections of their discoveries.

And first, the histories of the Gentiles afford us slender satisfaction, nor can they relate any story, or affix a probable point to its beginning.[1] For some thereof (and those of the wisest amongst them) are so far from determining its beginning, that they opinion and maintain it never had any at all; as the doctrine of Epicurus implieth, and more positively

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[1] *its beginning.*] The beginning of the world.

Aristotle, in his books *De Cœlo,* declareth. Endeavouring to confirm it with arguments of reason, and those appearingly demonstrative; wherein his labours are rational, and uncontrolable upon the grounds assumed, that is, of physical generation, and a primary or first matter, beyond which no other hand was apprehended. But herein we remain sufficiently satisfied from Moses, and the doctrine delivered of the creation; that is, a production of all things out of nothing, a formation not only of matter, but of form, and a materiation even of matter itself.

Others are so far from defining the original of the world or of mankind, that they have held opinions not only repugnant unto chronology, but philosophy; that is, that they had their beginning in the soil where they inhabited; assuming or receiving appellations conformable unto such conceits. So did the Athenians term themselves αὐτόχθονες or Aborigines, and in testimony thereof did wear a golden insect on their heads: the same name is also given unto the Inlanders, or Midland inhabitants of this island, by Cæsar. But this a conceit answerable unto the generation of the giants, not admittable in philosophy, much less in divinity, which distinctly informeth we are all the seed of Adam, that the whole world perished, unto eight persons before the flood, and was after peopled by the colonies of the sons of Noah. There was therefore never any *autochthon,*[2] or man arising from the earth, but Adam; for the woman being formed out of the rib, was once removed from earth, and framed from that element under incarnation. And so although her production were not by copulation, yet was it in a manner seminal: for if in every part from whence the seed doth flow, there be contained the idea of the whole; there was a seminality and contracted Adam in the rib, which, by the information of a soul, was individuated unto Eve. And therefore this conceit applied unto the original of man, and the beginning of the world, is more justly appropriable unto its end; for then indeed men shall rise out of the earth: the graves shall shoot up their concealed seeds, and in that great autumn, men shall spring up, and awake from their chaos again.

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[2] *autochthon,*] Autochthon, [rising himselfe from the earthe] which was not to bee granted of the first; who did not spring [as plants now doe] of himselfe. For Adam was created out of the dust by God. The second Adam might bee trulyer called Autochthon, in a mystical sense, not only in respect of his birthe, but of his resurrection alsoe.—*Wr.*

Others have been so blind in deducing the original of things, or delivering their own beginnings, that when it hath fallen into controversy, they have not recurred unto chronology or the records of time; but betaken themselves unto probabilities, and the conjecturalities of philosophy.* Thus when the two ancient nations, Egyptians and Scythians, contended for antiquity, the Egyptians pleaded their antiquity from the fertility of their soil, inferring that men there first inhabited, where they were with most facility sustained; and such a land did they conceive was Egypt.

The Scythians, although a cold and heavier nation, urged more acutely, deducing their arguments from the two active elements and principles of all things, fire and water. For if of all things there was first an union, and that fire over-ruled the rest, surely that part of earth which was coldest would first get free; and afford a place of habitation: but if all the earth were first involved in water, those parts would surely first appear, which were most high, and of most elevated situation, and such was theirs. These reasons carried indeed the antiquity from the Egyptians, but confirmed it not in the Scythians: for, as Herodotus relateth, from Pargitaus their first king unto Darius, they accounted but two thousand years.

As for the Egyptians, they invented another way of trial; for as the same author relateth, Psammitichus their king attempted this decision by a new and unknown experiment; bringing up two infants with goats, and where they never heard the voice of man; concluding that to be the ancientest nation, whose language they should first deliver.[3] But herein he forgot, that speech was by instruction not instinct, by imitation, not by nature; that men do speak in some kind but like parrots, and as they are instructed, that is, in simple terms and words, expressing the open notions of things; which the second act of reason compoundeth into propositions, and the last into syllogisms and forms of ratiocination. And howsoever the account of Manethon the Egyptian priest run very high, and it be evident that Mizraim peopled that country, (whose name with the Hebrews it beareth unto this day,) and there be many things of great antiquity related in Holy Scripture, yet was their exact account not very ancient; for Ptolemy their countryman beginneth his astronomical compute no higher than Nabonasser, who is conceived by some the same with Salmanasser. As for the argument deduced from the fertility of the soil, duly enquired it rather overthroweth than promoteth their antiquity; if that country whose fertility they so advance, was in ancient times no firm or open land, but some vast lake or part of the sea, and became a gained ground by the mud and limous matter brought down by the river Nilus, which settled by degrees into a firm land,—according as is expressed by Strabo, and more at large by Herodotus, both from the Egyptian tradition and probable inducements from reason; called therefore *fluvii donum*, an accession of earth, or tract of land acquired by the river.

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* *Diodor. Justin.*

[3] *As for the Egyptians, &c.*] "It is said that after they were two years old, one of the boys cried *becchus*, which in the Phrygian language signifyeth 'bread,' whence it was conjectured that the Phrygians were the first people."—*Jeff.*

Lastly, some indeed there are, who have kept records of time, and a considerable duration, yet do the exactest thereof afford no satisfaction concerning the beginning of the world, or any way point out the time of its creation. The most authentick records and best approved antiquity are those of the Chaldeans; yet in the time of Alexander the Great they attained not so high as the flood. For as Simplicius relateth, Aristotle required of Calisthenes, who accompanied that worthy in his expedition, that at his arrival at Babylon, he would enquire of the antiquity of their records; and those upon compute he found to amount unto 1903 years, which account notwithstanding ariseth no higher than ninety-five years after the flood. The Arcadians, I confess, were esteemed of great antiquity, and it was usually said they were before the moon; according unto that of Seneca; *sidus post veteres Arcades editum*, and that of Ovid, *lunâ gens* *prior illa fuit.* But this, as Censorinus observeth, must not be taken grossly, as though they were existent before that luminary; but were so esteemed, because they observed a set course of year, before the Greeks conformed their year unto the course and motion of the moon.

Thus the heathens affording no satisfaction herein, they are most likely to manifest this truth, who have been acquainted with Holy Scripture, and the sacred chronology delivered by Moses, who distinctly sets down this account, computing by certain intervals, by memorable æras, epochs or terms of time: as, from the creation unto the flood, from hence unto Abraham, from Abraham unto the departure from Egypt, &c. Now in this number have only been Samaritans, Jews, and Christians.

For the Jews; they agree not in their accounts, as Bodine in his method of history hath observed, out of Baal Seder, Rabbi Nassom, Gersom, and others; in whose compute the age of the world is not yet 5400 years. The same is more evidently observable from two most learned Jews, Philo and Josephus; who very much differ in the accounts of time, and variously sum up these intervals assented unto by all. Thus Philo, from the departure out of Egypt unto the building of the temple, accounts but 920 years; but Josephus sets down 1062: Philo, from the building of the temple, to its destruction, 440; Josephus, 470: Philo, from the creation to the destruction of the temple, 3373; but Josephus, 3513: Philo, from the deluge to the destruction of the temple, 1718: but Josephus, 1913. In which computes there are manifest disparities, and such as much divide the concordance and harmony of times.

For the Samaritans; their account is different from these or any others; for they account from the creation to the deluge but 1302 years; which cometh to pass upon the different account of the ages of the Patriarchs set down when they begat children. For whereas the Hebrew, Greek, and Latin texts account Jared 162 when he begat Enoch, they account but sixty-two; and so in others. Now the Samaritans were no incompetent judges of times and the chronology thereof; for they embrace the five books of

Moses, and as it seemeth, preserve the text with far more integrity than the Jews: who as Tertullian, Chrysostom, and others oberve, did several ways corrupt the same, especially in passages concerning the prophecies of Christ. So that, as Jerome professeth, in his translation he was fain sometime to relieve himself by the Samaritan Pentateuch; as amongst others in that text, Deuteronomy xxvii, 26; *Maledictus omnis qui non permanserit in omnibus quæ scripta sunt in libro legis.* From hence Saint Paul, (Gal. iii, 10,) inferreth there is no justification by the law, and urgeth the text according to the Septuagint. Now the Jews, to afford a latitude unto themselves, in their copies expunged the word כל or syncategorematical term *omnis:* wherein lieth the strength of the law, and of the apostle's argument; but the Samaritan Bible retained it right, and answerable unto what the apostle had urged.[4]

As for Christians, from whom we should expect the exactest and most concurring account, there is also in them a manifest disagreement, and such as is not easily reconciled. For first, the Latins accord not in their account; to omit the calculation of the ancients, of Austin, Bede, and others, the chronology of the moderns doth manifestly dissent. Josephus Scaliger, whom Helvicus seems to follow, accounts the creation in 765 of the Julian period; and from thence unto the nativity of our Saviour alloweth 3947 years; but Dionysius Petavius, a learned chronologer, dissenteth from this compute almost forty years; placing the creation in the 730th of the Julian period, and from thence unto the incarnation accounteth 3983 years. For the Greeks; their accounts are more anomalous: for if we recur unto ancient computes, we shall find that Clemens Alexandrinus, an ancient father and preceptor unto Origen, accounted from the creation unto our Saviour, 5664 years; for in the first of his *Stromaticks,* he collecteth the time from Adam unto the death of Commodus to be 5858 years; now the death of Commodus he placeth in the year after Christ 194, which number deducted from the former, there remaineth 5664. Theophilus, bishop of Antioch, accounteth unto the nativity of Christ 3515, deducible from the like way of compute; for in his first book *ad Autolychum*, he accounteth from Adam unto Aurelius Verus 5695 years; now that Emperor died in the year of our Lord 180, which deducted from the former sum, there remaineth 5515. Julius Africanus, an ancient chronologer, accounteth somewhat less, that is, 5500. Eusebius, Orosius and others dissent not much from this, but all exceed five thousand.

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[4] *the Samaritan, &c.*] It is also preserved in six MSS. in the collections of Dr. Kennicott, and De Rossi, in several copies of the Chaldee Targum, and in the LXX.—*Jeff.*

The latter compute of the Greeks, as Petavius observeth, hath been reduced unto two or three accounts. The first accounts unto our Saviour 5501, and this hath been observed by Nicephorus, Theophanes, and Maximus. The other accounts 5509; and this of all at present is generally received by the church of Constantinople, observed also by the Moscovite, as I have seen in the date of the emperor's letters; wherein this year of ours, 1645, is from the year of the world 7154, which doth exactly agree unto this last account 5509: for if unto that sum be added 1645, the product will be 7154; by this chronology are many Greek authors to be understood: and thus is Martinus Crusius to be made out, when in his Turcogrecian history he delivers, the city of Constantinople was taken by the Turks in the year στθξα that is, 6961. Now according unto these chronologists, the prophecy of Elias the rabbin, so much in request with the Jews, and in some credit also with Christians, that the world should last but six thousand years; unto these I say, it hath been long and out of memory disproved; for the sabbatical and 7000th year wherein the world should end (as did the creation on the seventh day) unto them is long ago expired; they are proceeding in the eight thousandth year, and numbers exceeding those days which men have made the types and shadows of these. But certainly what Marcus Leo the Jew conceiveth of the end of the heavens, exceedeth the account of all that ever shall be; for though he conceiveth the elemental frame shall end in the seventh or sabbatical millenary, yet cannot he opinion the heavens and more durable part of the creation shall perish before seven times seven or forty-nine, that is, the quadrant of the other seven, and perfect jubilee of thousands.[5]

Thus may we observe the difference and wide dissent of men's opinions, and thereby the great incertainty in this establishment. The Hebrews not only dissenting from the Samaritans, the Latins from the Greeks, but every one from another. Insomuch that all can be in the right it is impossible that any one is so, not with assurance determinable. And therefore, as Petavius confesseth, to effect the same exactly without inspiration, it is impossible, and beyond the arithmetick of any but God himself. And therefore also, what satisfaction may be obtained from those violent disputes, and eager enquiries, in what day of the month the world began, either of March or October; likewise in what face or position of the moon, whether at the prime or full, or soon after, let our second and serious considerations determine.

Now the reason and ground of this dissent is the unhappy difference between the Greek and Hebrew editions of the bible, for unto these two languages have all translations conformed; the Holy Scripture being first delivered in Hebrew, and first translated into Greek. For the Hebrew; it seems the primitive and surest text to rely on, and to preserve the same entire and uncorrupt there hath been used the highest caution humanity could invent. For, as R. Ben Maimon hath declared, if in the copying thereof one letter were written twice, or if one letter but touched another, that copy was not admitted into their synagogues, but only allowable to be read in schools and private families. Neither were they careful only in the exact number of their sections of the law, but had also the curiosity to number every word, and affixed the account unto their several books. Notwithstanding all which, divers corruptions ensued, and several depravations slipt in, arising from many and manifest grounds, as hath been exactly noted by Morinus in his preface unto the Septuagint.

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[5] *Marcus Leo the Jew.*] The text convinceth this dotage of the Jew: St. Paule sayd 1500 years agoe, that the ends of the world were then coming, which was spoken not of hundreds of yeares but of thousands. Yf then Christ were borne in the 4000th yeare of the world, as the late learned Armachanus (Abp. Usher) opines, (not without excellent and undeniable reasons easie to bee made good) wee must divide the age of the world into 3 partes. The beginning of the world must bee counted as the first 2000 yeares: the midste 4000: and the end 6000 or perhaps not soe much: for our Saviour sayes evidently there shall be an abbreviation, viz. in the last parte; but when that shall bee Deus novit.—*Wr.*

Our Lord's prediction is usually applied to the destruction of Jerusalem.

As for the Septuagint, it is the first and most ancient translation; and of greater antiquity than the Chaldee version; occasioned by the request of Ptolemeus Philadelphus king of Egypt, for the ornament of his memorable library, unto whom the high priest addressed six Jews out of every tribe, which amounteth unto 72; and by these was effected that translation we usually term the septuagint, or translation of seventy. Which name, however it obtain from the number of their persons, yet in respect of one common spirit, it was the translation but as it were of one man; if, as the story relateth, although they were set apart and severed from each other, yet were their translations found to agree in every point, according as is related by Philo and Josephus; although we find not the same in Aristæas,* who hath expressly treated thereof. But of the Greek compute there have passed some learned dissertations not many years ago, wherein the learned Isaac Vossius[6] makes the nativity of the world to anticipate the common account one thousand four hundred and forty years.

This translation in ancient times was of great authority. By this many of the heathens received some notions of the creation and the mighty works of God. This in express terms is often followed by the evangelists, by the apostles, and by our Saviour himself in the quotations of the Old Testament. This for many years was used by the Jews themselves, that is, such as did Hellenize and dispersedly dwelt out of Palestine with the Greeks; and this also the succeeding Christians and ancient fathers observed; although there succeeded other Greek versions, that is, of Aquila, Theodosius, and Symmachus. For the Latin translation of Jerome called now the vulgar, was about 800 years after the Septuagint; although there was also a Latin translation before, called the Italic version, which was after lost upon the general reception of the translation of Jerom. Which notwithstanding, (as he himself acknowledgeth *) had been needless, if the Septuagint copies had remained pure, and as they were first translated. But (beside that different copies were used, that Alexandria and Egypt followed the copy of Hesychius, Antioch and Constantinople that of Lucian the martyr, and others that of Origen,) the Septuagint was much depraved, not only from the errors of scribes, and the emergent corruptions of time, but malicious contrivance of the Jews; as Justin Martyr hath declared, in his learned dialogue with Tryphon, and Morinus † hath learnedly shewn from many confirmations.[7]

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* *Aristæas ad Philociatorem de 72 interpretibus.*

[6] *Isaac Vossius*] He contended for the inspiration of the Septuagint.—*Jeff.*

Whatsoever interpretations there have been since have been especially effected with reference unto these, that is, the Greek and Hebrew text; the translators sometimes following the one, sometimes adhering unto the other, according as they found them consonant unto truth, or most correspondent unto the rules of faith. Now, however it cometh to pass, these two are very different in the enumeration of genealogies, and particular accounts of time: for in the second interval, that is, between the flood and Abraham, there is by the Septuagint introduced one Cainan[8] to be the son of Arphaxad and father of Salah; whereas in the Hebrew there is no mention of such a person, but Arphaxad is set down to be the father of Salah. But in the first interval, that is, from the creation unto the flood, their disagreement is more considerable; for therein the Greek exceedeth the Hebrew and common account almost 600 years. And 't is indeed a thing not very strange, to be at the difference of a third part, in so large and collective an account, if we consider how differently they are set forth in minor and less mistakable

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* *Præfat. in Paralipom.* † *De Hebræi et Græci textus sinceritate.*

[7] *Which was after lost, &c.*] This concluding sentence was first added in the 2nd edit.

[8] *Cainan,*] How this second Cainan was foisted into the translation of the Septuagint, see that learned tract in *Gregoryes Posthuma*, p. 77, which hee calls Καινὰν δεύτερος: Hee [meaning Sir Thomas,] might have called him Ψευδοκαινὰν; which had been most sutable to this learned worke, of discovering comon errors.—*Wr.*

See also *Dr. Hales's New Analysis*, vol. 1, pp. 90—94.

numbers. So in the prophecy of Jonah, both in the Hebrew and Latin text, it is said, "Yet forty days and Nineveh shall be overthrown;" but the Septuagint saith plainly, and that in letters at length, τρεῖς ἡμέρας, that is, "yet three days and Nineveh shall be destroyed." Which is a difference not newly crept in, but an observation very ancient, discussed by Austin and Theodoret, and was conceived an error committed by the scribe.[9] Men therefore have raised different computes of time, according as they have followed their different texts; and so have left the history of times far more perplexed than chronology hath reduced.

Again, however the texts were plain, and might in their numerations agree, yet were there no small difficulty to set down a determinable chronology or establish from hence any fixed point of time. For the doubts concerning the time of the judges are inexplicable; that of the reigns and succession of kings is as perplexed; it being uncertain whether the years both of their lives and reigns ought to be taken as complete, or in their beginning and but current accounts. Nor is it unreasonable to make some doubt whether in the first ages and long lives of our fathers, Moses doth not sometime account by full and round numbers, whereas strictly taken they might be some few years above or under; as in the age of Noah, it is delivered to be just five hundred when he begat Sem; whereas perhaps he might be somewhat above or below that round and complete number. For the same way of speech is usual in divers other expressions: thus do we say the Septuagint, and using the full and articulate number, do write the translation of seventy; whereas we have shewn before the precise number was seventy-two. So is it said that Christ was three days in the grave; according to that of Matthew, "As Jonas was three days and three nights in the whale's belly, so shall the Son of man be three days and three nights in the heart of the earth:" which notwithstanding must be taken synecdochically, or by understanding a part for a whole day; for he remained but two nights in the grave: for he was buried in the afternoon of the first day, and arose very early in the morning on the third; that is, he was interred in the eve of the sabbath, and arose the morning after it.[1]

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[9] *Scribe.*] Writing γ for μ, which might easily bee, not in the original, but in the second transcript.—*Wr.*

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[1] *after it.*] Before day: the whole being scarce 34 houres while he was in the grave, which is not the one halfe of three days and three nights, nor can be salved synechdochicallye.

'Tis strange to see how all the nation of expositors, since Christe, as yf they were infected with a disease of supinity, thinke they have abundantly satisfied the texte, by telling us, that speech of Christe comparinge himself to Jonas, must be understood synechdochically, which is: 1. not only a weak interpretation; 2. but ridiculous to Jews, Turks, and Infidels; 3. and consequently derogatory to the trueth; who expressly puts in the reddition, 3 dayes and 3 nights, by an emphaticall expression. Which as itt was punctually fortold, the express time of 3 dayes and 3 nights; soe itt was as punctually performed (*usque ad apices*) for as Jonas was 3 days and 3 nights in the whale, which admits noe *synechdoche;* soe the sonn of man was in the grave 3 dayes and 3 nights without any abatement of a moment. That which begat this error was, a mistake of the dayes and nights, spoken of Jonas. And from thence not only unwarrantably but untruly applyed to Christ's stay in the grave. Wee must therefore distinguish of dayes and nights, and take them either in Moses' sense, for the whole revolution of the ☉ to the eastern pointe after 24 houres: which most men by like contagion of error, call the natural day, wheras itt is rather to bee cald artificiall, as being compounded of a day and a night, wheras the night is properly noe parte univocall of a day, but a contradistinct member thereto. Now in this sense yf the days and nights bee conceived; itt is impossible to make good the one halfe of 3 dayes and 3 nights by any figurative or synechdochical sense: for from the time of his enterring, very neer 6 at even on Friday to 6 at even on Saturday are but 24 houres: to which adde from 6 at even to 3 or 4 next morne (for itt was yet darke, when Mary Magd. came and saw the stone remooved) viz. 10 houres more, they will make in all but thirty foure houres, that is but $1\frac{10}{24}$ day and night of æquinoctial revolution. Or else in our Saviour's sense, Jo. xi. 9, where by the day Christe understands, the very day-light, or natural day, caused by the presence of the sun; to the which night is always opposed as contradistinct, as is manifest from that very place. For as itts alwayes midday directly under the ☉, soe there is midnight alwayes opposite to midnoone through the world. And these 2 have runn opposite round the world, *simul et semel* every 24 houres since the creation, and soe shall doe, while time shall bee noe more. I say therefore that thoughe in respect of Jesus' grave in the garden he lay but 36 houres in the earthe yet in respect of the world for which he suffered, there were 3 distincte dayes and nights actually in being, while hee lay in the bowels of the earthe: (which is to be distinctly noted to justifie of him, who did not, could not, æquivocate. Friday night in Judæa, and a day opposite therto in the other hemisphere, just 12 houres; Saturday 12 houres in Judæa, and the opposite night 12 hours; Saturday night in Judæa, and the opposite day elsewhere at the same time. And hee that denyes this, hath lost his sense: for I ask were there not actually 3 essentiall dayes and 3 nights (*sub coelo*) during his sepulture. And yf this cannot be denyed by any but a madman, I aske againe did Christe suffer for Judæa only, or for the whole world? least of all for Judæa, which for his unjust death was exterminate and continues accursed. Soe that henceforth wee shall need no synechdoche to make good the prophetick speech of him that could not lie: who sayde, *sic erit Filius hominis in corde terræ tribus diebus et tribus noctibus:* and this was truly fulfilled *usque ad momenta,* and therefore I dare believe it, and noe Jew or Turk can contradict itt. (Hee that made the several natures of day and night in this sense; sayd hee would lye in the grave 3 of these dayes and 3 nights.)—*Wr.*

This is ingenious, and to its author it seems abundantly satisfactory, proceed-

Moreover, although the number of years be determined and rightly understood, and there be without doubt a certain truth herein, yet the text speaking obscurely or dubiously, there is oft-times no slender difficulty at what point to begin or terminate the account. So when it is said, Exod. xii, the sojourning of the children of Israel who dwelt in Egypt was 430 years, it cannot be taken strictly, and from their first arrival into Egypt, for their habitation in that land was far less; but the account must begin from the covenant of God with Abraham, and must also comprehend their sojourn in the land of Canaan, according as is expressed Gal. iii, "The covenant that was confirmed before of God in Christ, the law which was 430 years after cannot disannul." Thus hath it also happened in the account of the seventy years of their captivity, according to that of Jeremy, "This whole land shall be a desolation, and these nations shall serve the king of Babylon seventy years."* Now where to begin or end this compute, ariseth no small difficulty; for there were three remarkable captivities, and deportations of the Jews. The first was in the third or fourth year of Joachim, and first of Nabuchodonozor, when Daniel was carried away; the second in the reign of Jeconiah, and the eighth year of the same king; the third and most deplorable in the reign of Zedechias, and in the nineteenth year of Nabuchodonozor, whereat both the temple and city were burned. Now such is the different conceit of these times, that men have computed from all; but the probablest account and most concordant unto the intention of Jeremy is from the first of Nabuchodonozor unto the first of king Cyrus over Babylon; although the prophet Zachary accounteth from the last. "O Lord of hosts, how long! wilt thou not have mercy on Jerusalem, against which thou hast had indignation these threescore and ten years?"* for he maketh this expostulation in the second year of Darius Hystaspes, wherein he prophesied, which is about eighteen years in account after the other.

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* Chap. xx.

ing on the hypothesis that as our Lord suffered for the whole world, the duration of his suffering must be understood with reference to the whole earth. The Dean adds to the two nights and one day which elapsed in Palestine,—the corresponding two days and one night, which elapsed at the antipodes of Judea. But this is liable to objection. It is just as truly *synechdochical* as the interpretation of Sir Thomas:—only that it takes two points on the earth's surface instead of one for the whole. Besides the ingenuity is needless. The Jews were in the habit of speaking *synechdochically* in that very respect that they speak of each part of a day and night (or of 24 hours) as a day and night—*νύχθημερα*. So that if Jonah was in the deep during less than 48 hours, provided that period comprised, in addition to one entire 24 hours, a portion of the preceding and of the following 24 hours,—then the Jews would say that he had been in the deep 3 day-nights or 3 days and 3 nights. As if we should say of a person who had left home on Friday afternoon and returned on Sunday morning, that he was from home Friday, Saturday, and Sunday—this might be thought to imply considerable portions of the day of Friday and of Sunday—but certainly it would not be necessary to the accuracy of such a report that he should have started immediately after midnight of Thursday, and returned at the same hour on Sunday. And yet he would otherwise not have been from home on Friday, Saturday, and Sunday—but only during parts of those days. With the Jews common parlance would only require that our Redeemer should have been in the heart of the earth, from the eve of the (Jewish) sabbath, however late, to the morning of the first day, however early, in order to justify the terms in which they would universally have spoken of the duration of his abode there—as comprising three days and three nights. We may observe too, that three days are uniformly spoken of as the time of our Lord's abode in the grave, whether it is spoken of typically or literally. Thus he says of himself, "I do cures to day and to morrow, and the third day I am perfected."

Thus also although there be a certain truth therein, yet is there no easy doubt concerning the seventy weeks, or seventy times seven years of Daniel; whether they have reference, unto the nativity or passion[2] of our Saviour, and especially from whence, or what point of time they are to be computed.

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* Chap. i, 12.

[2] *nativity or passion.*] The learned thinke they have reference [that is of their determination] to neither of them. For most of the learned conceive, that those 70 weeks, or seven times seventy [viz. 490 years] ended with the destruction of the citye; which was 70 yeares after the nativitye, and 38 after the passion of Christe: and then 'twill bee noe hard matter to compute the pointe from whence those 490 yeares must bee supposed to begin: which wee shal find to bee in the 6th yeare of Darius Nothus; at what time the temple being finished by Artaxerxes commaund, formerly given A^{o}. Regni 20^{o}. the commaund for the building of Jerusalem also was given by this Darius Nothus, A$_{o}$. Mundi, 3532, which agrees exactlye with Scaliger's irrefragable computation. But to see this difficult question fully decided, and in a few lines, I can give no such direction, as that which Gregorye hath lately given us in his excellent tract *de Æris et Epochis*, cap. xi, which was publisht this last year 1649, and is a work worthye of a diligent reader.—*Wr.*

On referring to Rev. T. H. Horne's analytical view of Daniel, I find the following brief summary of this period. Its commencement "is fixed (Dan. ix, 25,) to the time when the order was issued for rebuilding the temple in the seventh year of the reign of Artaxerxes. (Ezra vii, 11,) seven weeks, or forty-nine years, was the temple in building (Dan. ix, 25); sixty-two weeks, or four hundred and thirty-four years more, bring us to the public manifestation of the Messiah, at the beginning of John the Baptist's preaching; and one prophetic week or seven years, added to this, will bring us to the time of our Saviour's passion, or the thirty-third year of the Christian æra,—in all 490 years."—*Introduction, &c.* vol. iv, p. 1, ch. vi, § 4.

For thus it is delivered by the Angel Gabriel, "Seventy weeks are determined upon thy people;" and again in the following verse; "Know therefore and understand, that from the going forth of the commandment to restore and to build Jerusalem, unto the Messiah the prince, shall be seven weeks, and threescore and two weeks, the street shall be built again, and the wall even in troublesome times; and after threescore and two weeks shall Messiah be cut off."[3] Now the going out of the commandment, to build the city, being the point from whence to compute, there is no slender controversy when to begin. For there are no less than four several edicts to this effect, the one in the first year of Cyrus,[4] the other in the second of Darius, the third and fourth in the seventh, and in the twentieth of Artaxerxes Longimanus; although as Petavius accounteth, it best accordeth unto the twentieth year of Artaxerxes, from whence Nehemiah deriveth his commission. Now that computes are made uncertainly with reference unto Christ, it is no wonder, since I perceive the time of his nativity is in controversy, and no less his age at his passion. For Clemens and Tertullian conceive he suffered at thirty; but Irenæus a father nearer his time, is further off in his account, that is, between forty and fifty.

Longomontanus, a late astronomer, endeavours to discover this secret from astronomical grounds, that is, the apogeum of the sun; conceiving the eccentricity invariable, and the apogeum yearly to move one scruple, two seconds, fifty thirds, &c. Wherefore if in the time of Hipparchus, that is, in the year of the Julian period, 4557, it was in the fifth degree of Gemini, and in the days of Tycho Brahe, that is, in the year of our Lord, 1588, or of the world 5554, the same was removed unto the fifth degree of Cancer; by the proportion of its motion, it was at the creation first in the beginning of Aries, and the perigeum or nearest point in Libra. But this conceit how ingenious or subtile soever, is not of satisfaction; it being not determinable, or yet agreed in what time precisely the apogeum absolveth one degree, as Petavius* hath also delivered.

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[3] *know, &c.*] Dan. ix, 25.

[4] *the one in the first year, &c.*] A.M. 3119; 3430; 3192; 3505.—*Wr.* These dates however different from those assigned by the most eminent of our more recent chronologists.

Lastly, however these or other difficulties intervene, and that we cannot satisfy ourselves in the exact compute of time, yet may we sit down with the common and usual account; nor are these differences derogatory unto the advent or passion of Christ, unto which indeed they all do seem to point, for the prophecies concerning our Saviour were indefinitely delivered before that of Daniel; so was that pronounced unto Eve in Paradise, that after of Balaam, those of Isaiah and the prophets, and that memorable one of Jacob, "the sceptre shall not depart from Israel until Shilo come;" which time notwithstanding it did not define at all. In what year therefore soever, either from the destruction of the temple, from the re-edifying thereof, from the flood, or from the creation, he appeared, certain it is, that in the fulness of time he came. When he therefore came, is not so considerable, as that he is come: in the one there is consolation, in the other no satisfaction. The greater query is, when he will come again; and yet indeed it is no query at all; for that is never to be known, and therefore vainly enquired: t'is a professed and authentick obscurity, unknown to all but to the omniscience of the Almighty. Certainly the ends of things are wrapt up in the hands of God, he that undertakes the knowledge thereof forgets his own beginning, and disclaims his principles of earth. No man knows the end of the world, nor assuredly of any thing in it: God sees it, because unto his eternity it is present; he knoweth the ends of us, but not of himself; and because he knows not this, he knoweth all things, and his knowledge is endless, even in the object of himself.

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* *De Doctrina Temporum*, l. 4.

CHAPTER II.

Of Men's Enquiries in what season or point of the Zodiack it began, that, as they are generally made, they are in vain, and as particularly, uncertain.

Concerning the seasons, that is, the quarters of the year, some are ready to enquire, others to determine, in what season, whether in the autumn, spring, winter, or summer, the world had its beginning. Wherein we affirm, that, as the question is generally and in respect of the whole earth proposed, it is with manifest injury unto reason in any particular determined; because whenever the world had its beginning it was created in all these four. For, as we have elsewhere delivered, whatsoever sign the sun possesseth (whose recess or vicinity defineth the quarters of the year) those four seasons were actually existent; it being the nature of that luminary to distinguish the several seasons of the year; all which it maketh at one time in the whole earth, and successively in any part thereof.[4] Thus if we suppose the sun created in Libra, in which sign unto some it maketh autumn; at the same time it had been winter unto the northern pole, for unto them at that time the sun beginneth to be invisible, and to shew itself again unto the pole of the south. Unto the position of a right sphere, or directly under the equator, it had been summer; for unto that situation the sun is at that time vertical. Unto the latitude of Capricorn, or the winter solstice, it had been spring; for unto that position it had been in a middle point, and that of ascent, or approximation; but unto the latitude of Cancer, or the summer solstice, it had been autumn; for then had it been placed in a middle point, and that of descent, or elongation.

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[4] *thereof.*] According as he makes his access too, or recess from the several [parts] of the earthe: now in that his accesse to the one is a recess from the other, it followes, that those from whom he partes have their autumne, those within the tropicks, over whose heads he passes, have their summer, and those on the other side beyond the tropicke towards whome hee goes have their new spring beginning in exchange of their former, causd by his absence.—*Wr.*

And if we shall take literally what Moses describeth popularly, this was also the constitution of the first day. For when it was evening unto one longitude, it was morning unto another; when night unto one, day unto another. And therefore that question, whether our Saviour shall come again in the twilight (as is conceived he arose) or whether he shall come upon us in the night, according to the comparison of a thief, or the Jewish tradition, that he will come about the time of their departure out of Egypt, when they eat the passover, and the angel passed by the doors of their houses; this query I say needeth not further dispute. For if the earth be almost every where inhabited, and his coming (as divinity affirmeth) must needs be unto all; then must the time of his appearance be both in the day and night. For if unto Jerusalem, or what part of the world soever he shall appear in the night, at the same time unto the antipodes it must be day; if twilight unto them, broad day unto the Indians: if noon unto them, yet night unto the Americans; and so with variety according unto various habitations, or different positions of the sphere, as will be easily conceived by those who understand the affections of different habitations, and the conditions of Antœci, Periœci, and Antipodes. And so, although he appear in the night, yet may the day of judgment or dooms-day well retain that name;* for that implieth one revolution of the sun, which maketh the day and night, and that one natural day. And yet to speak strictly, if (as the apostle affirmeth) we shall be changed in the twinkling of an eye,[5] and (as the schools determine) the destruction

* Νυχθήμερον.

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[5] *twinkling, &c.*] Taking this for granted [which noe man dare denye] yet it is most truly sayde, that doomes day is the last daye, i. e. the last daye of the sons circling this lower world by his daylye course: which as itt hath [in itt selfe] noe rising or settinge, but caryeth the daye and midnoone always directly under him round the world perpetuallye: soe in what parte of the world that course shal bee determind [and the day therewith] is noe waye considerable, and much lesse in what parte of the daye of 24 houres, that sodaine instant of change shall bee; which of necessity must bee to some inhabitants of the

of the world shall not be successive but in an instant, we cannot properly apply thereto the usual distinctions of time; calling that twelve hours, which admits not the parts thereof, or use at all the name of time, when the nature thereof shall perish.

But if the enquiry be made unto a particular place, and the question determined unto some certain meridian; as namely, unto Mesopotamia[6] wherein the seat of Paradise is presumed, the query becomes more reasonable, and is indeed in nature also determinable. Yet positively to define that season, there is no slender difficulty; for some contend that it began in the spring; as, (beside Eusebius, Ambrose, Bede, and Theodoret,) some few years past, Henrico Philippi in his chronology of the Scripture. Others are altogether for autumn; and from hence do our chronologers commence their compute; as may be observed in Helvicus, Jo. Scaliger, Calvisius, and Petavius.[7]

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world at the time of his risinge, to others at midnoone, to others at his sittinge, and to others at midnight: for all these are all at once, and in the very same instant, every day, in several partes of the worlde: as for example: in April when tis midday at London; 't is just sonrise at Virginia; and just sonset at the hithermost partes of Nova Guinea, and yet itt is the same daye to all these 3 parcels of the world at once. But when that greate doome shall come, the course of the son shall instantly cease, and consequently the natural and usual course of day and night with itt: yet there shall bee noe want of lighte in that parte of the aire, or that parte of the earthe under the place, where the sonn of man shall call the world before his judgment seate; unless any man bee soe simple to thinke that in the presence of God there shall be lesse light then in the presence of the son.—*Wr.*

[6] *Mesopotamia*] Most thinke the valley of Jehosaphat.—*Wr.*

The valley of Jehoshaphat was situated east-ward of Jerusalem, between that city of the Mount of Olives; and through which ran the brook Kedron:—Mesopotamia was a province between the Euphrates and Tigris.

[7] *Petavius.*] And yet itt must bee confest, that the spring, or sonns entrance into Aries is *verum caput et naturale Principium Anni*, renewing and reviving all things, as of old in Paradise, æqualling dayes and nights in all places, within the pole circles especially: and as to this all astronomers agree, soe, consonant thereto, all geographers consent, that Paradise was neere under the Æquinoctiall, or on this side of itt, under rise of the spring with the sonn.—*Wr.*

CHAPTER III.

Of the Divisions of the Seasons and Four Quarters of the Year, according unto Astronomers and Physcians; that the common compute of the Ancients, and which is still retained by some, is very questionable.

As for the divisions of the year, and the quartering out this remarkable standard of time, there have passed especially two distinctions. The first in frequent use with astronomers according to the cardinal intersections of the zodiack, that is, the two æquinoctials and both the solstitial points, defining that time to be the spring of the year, wherein the sun doth pass from the equinox of Aries unto the solstice of Cancer; the time between the solstice and the equinox of Libra, summer; from thence unto the solstice of Capricornus, autumn; and from thence unto the equinox of Aries again, winter. Now this division, although it be regular and equal, is not universal; for it includeth not those latitudes which have the seasons of the year double; as have the inhabitants under the equator, or else between the tropicks. For unto them the sun is vertical twice a year, making two distinct summers in the different points of verticality. So unto those which live under the equator, when the sun is in the equinox, it is summer, in which points it maketh spring or autumn unto us; and unto them it is also winter when the sun is in either tropick, whereas unto us it maketh always summer in the one. And the like will happen unto those habitations, which are between the tropicks and the equator.

A second and more sensible division there is observed by Hippocrates, and most of the ancient Greeks, according to the rising and setting of divers stars; dividing the year, and establishing the account of seasons from usual alterations, and sensible mutations in the air, discovered upon the rising and setting of those stars: accounting the spring from the equinoctial point of Aries; from the rising of the Pleiades, or the several stars on the back of Taurus, summer; from the rising of Arcturus, a star between the thighs of Boëtes, autumn; and from the setting of the Pleiades, winter. Of these divisions, because they were unequal, they were fain to subdivide the two larger portions, that is, of the summer and winter quarters; the first part of the summer they named θέρος, the second unto the rising of the dog-star, ὥρα, from thence unto the setting of Arcturus ὀπώρα. The winter they divide also into three parts; the first part, or that of seed-time, they named σποgετον, the middle or proper winter, χειμὼν, the last, which was their planting or grafting time, φυταλιάν. This way of division was in former ages received, is very often mentioned in poets, translated from one nation to another; from the Greeks unto the Latins, as is received by good authors; and delivered by physicians, even unto our times.

Now of these two, although the first in some latitude may be retained, yet is not the other in any way to be admitted. For in regard of time (as we elsewhere declare) the stars do vary their longitudes, and consequently the times of their ascension and descension. That star which is the term of numeration, or point from whence we commence the account, altering his site and longitude in process of time, and removing from west to east, almost one degree in the space of seventy-two years, so that the same star, since the age of Hippocrates who used this account, is removed *in consequentia* about twenty-seven degrees. Which difference of their longitudes doth much diversify the times of their ascents, and rendereth the account unstable which shall proceed thereby.

Again, in regard of different latitudes, this cannot be a settled rule, or reasonably applied unto many nations. For, whereas the setting of the Pleiades or seven stars is designed the term of autumn, and the beginning of winter, unto some latitudes these stars do never set, as unto all beyond 67 degrees. And if in several and far distant latitudes we observe the same star as a common term of account unto both, we shall fall upon an unexpected, but an unsufferable absurdity; and by the same account it will be summer unto us in the north, before it be so unto those, which unto us are southward, and many degrees approaching nearer the sun. For if we consult the doctrine of the sphere, and observe the ascension of the Pleiades, which maketh the beginning of summer, we shall discover that in the latitude of 40 these stars arise in the 16th degree of Taurus, but in the latitude of 50, they ascend in the eleventh degree of the same sign, that is, five days sooner; so shall it be summer unto London, before it be unto Toledo, and begin to scorch in England, before it grow hot in Spain.

This is therefore no general way of compute, nor reasonable to be derived from one nation unto another; the defect of which consideration hath caused divers errors in Latin poets, translating these expressions from the Greeks; and many difficulties even in the Greeks themselves, which, living in divers latitudes, yet observed the same compute. So that, to make them out, we are fain to use distinctions; sometimes computing cosmically what they intended heliacally, and sometimes in the same expression accounting the rising heliacally, the setting cosmically. Otherwise it will be hardly made out, what is delivered by approved authors; and is an observation very considerable unto those which meet with such expressions, as they are very frequent in the poets of elder times, especially Hesiod, Aratus, Virgil, Ovid, Manilius, and authors geoponical, or which have treated *de re rustica*, as Constantine, Marcus Cato, Columella, Palladius and Varro.

Lastly, the absurdity in making common unto many nations those considerations whose verity is but particular unto some, will more evidently appear, if we examine the rules and precepts of some one climate, and fall upon consideration with what incongruity they are transferable unto others.

Thus is it advised by Hesiod:—

> Pleiadibus Altante natis orientibus
> Incipe Messem, Arationem vero occidentibus.—

implying hereby the heliacal ascent and cosmical descent of those stars. Now herein he setteth down a rule to begin harvest at the arise of the Pleiades; which in his time was in the beginning of May. This indeed was consonant unto the clime wherein he lived, and their harvest began about that season; but is not appliable unto our own, for therein we are so far from expecting an harvest, that our barley seed is not ended. Again, correspondent unto the rule of Hesiod, Virgil affordeth another,—

> Ante tibi Eoæ Atlantides abscondantur,
> Debita quam sulcis committas semina.—

understanding hereby their cosmical descent, or their setting when the sun ariseth; and not their heliacal obscuration, or their inclusion in the lustre of the sun, as Servius upon this place would have it; for at that time these stars are many signs removed from that luminary. Now herein he strictly adviseth, not to begin to sow before the setting of these stars; which notwithstanding, without injury to agriculture cannot be observed in England; for they set unto us about the 12th of November, when our seed-time is almost ended.

And this diversity of clime and celestial observations, precisely observed unto certain stars and months, hath not only overthrown the deductions of one nation to another, but hath perturbed the observation of festivities and statary solemnities, even with the Jews themselves. For unto them it was commanded, that at their entrance into the land of Canaan, in the fourteenth of the first month, (that is Abib or Nisan, which is spring with us,) they should observe the celebration of the passover; and on the morrow after, which is the fifteenth day, the feast of unleavened bread; and in the sixteenth of the same month, that they should offer the first sheaf of the harvest. Now all this was feasible and of an easy possibility in the land of Canaan, or latitude of Jerusalem; for so it is observed by several authors in later times; and is also testified by Holy Scripture in times very far before.* For when the children of Israel passed the river

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* Josh. iii.

Jordan, it is delivered by way of parenthesis, that the river overfloweth its banks in the time of harvest; which is conceived the time wherein they passed; and it is after delivered, that in the fourteenth day they celebrated the passover:* which according to the law of Moses, was to be observed in the first month, or month of Abib.

And therefore it is no wonder, what is related by Luke, that the disciples upon the *deuteroproton*, as they passed by, plucked the ears of corn. For the *deuteroproton* or second first sabbath, was the first sabbath after the *deutera* or second of the passover, which was the sixteenth of Nisan or Abib. And this is also evidenced from the received construction of the first and latter rain: "I will give you the rain of your land in his due season, the first rain and the latter rain:"† for the first rain fell upon the seed-time about October, and was to make the seed to root; the latter was to fill the ear, and fell in Abib or March, the first month; according as is expressed, "And he will cause to come down for you the rain, the former rain and the latter rain in the first month,"‡ that is, the month of Abib, wherein the passover was observed. This was the law of Moses, and this in the land of Canaan was well observed, according to the first institution: but since their dispersion, and habitation in countries, whose constitutions admit not such tempestivity of harvests, (and many not before the latter end of summer,) notwithstanding the advantage of their lunary account, and intercalary month Veader, affixed unto the beginning of the year, there will be found a great disparity in their observations, nor can they strictly, and at the same season with their forefathers, observe the commands of God.

To add yet further, those geoponical rules and precepts of agriculture, which are delivered by divers authors, are not to be generally received, but respectively understood unto climes whereto they are determined. For whereas one adviseth to sow this or that grain at one season, a second to set this or that at another, it must be conceived relatively, and every nation must have its country farm; for herein we may observe a manifest and visible difference, not only in the seasons of harvest, but in the grains themselves. For with[9] us barley-harvest is made after wheat-harvest, but with the Israelites and Egyptians it was otherwise. So is it expressed by way of priority, Ruth ii; "So Ruth kept fast by the maidens of Boaz, to glean unto the end of barley-harvest and of wheat-harvest;" which in the plague of hail in Egypt is more plainly delivered, Exod. ix; "And the flax and the barley were smitten, for the barley was in the ear, and the flax was bolled, but the wheat and the rye were not smitten, for they were not grown up."

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* Josh. v. † Deut. xi. ‡ Joel ii.

And thus we see, the account established upon the arise or descent of the stars can be no reasonable rule unto distant nations at all; and, by reason of their retrogression, but temporary unto any one. Nor must these respective expressions be entertained in absolute consideration; for so distinct is the relation, and so artificial the habitude of this inferior globe unto the superior, and even of one thing in each unto the other, that general rules are dangerous, and applications most safe that run with security of circumstance, which rightly to effect, is beyond the subtilty of sense, and requires the artifice of reason.[8]

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[8] *reason.*] Hence itt may appeare that those rules of prognostic and signification, which the Ægyptian, Arabian, Græcian, yea and Italian astronomers, have given concerning the starrs, and those clymates wherein they lived, cannot bee applied to our remote and colder clymes, nor to these later times (wherein the constellations of all the 12 signes are moved eastward almost 30 degrees; Aries into Taurus and that into Gemini, &c.) without manifest errors and grosse deceptions, and are therefore of late rejected by the most famous astronomers, Tycho, Copernicus, Longomontanus and Kepler (as diabolical impostures) *De Cometa Anni*, 1618.—*Wr.*

CHAPTER IV.

Of some computation of days, and deductions of one part of the year unto another.

Fourthly, there are certain vulgar opinions concerning days of the year, and conclusions popularly deduced from certain days of the month; men commonly believing the days increase and decrease equally in the whole year; which notwithstanding is very repugnant unto truth. For they increase in the month of March, almost as much as in the two months of January and February: and decrease as much in September, as they do in July and August. For the days increase or decrease according to the declination of the sun, that is, its deviation northward or southward from the equator. Now this digression is not equal, but near the equinoxial intersections, it is right and greater, near the solstices more oblique and lesser. So from the eleventh of March the vernal equinox, unto the eleventh of April, the sun declineth to the north twelve degrees; from the eleventh of April, unto the eleventh of May, but eight, from thence unto the fifteenth of June, or the summer solstice, but three and a half: all which make twenty-two degrees and an half, the greatest declination of the sun.

And this inequality in the declination of the sun in the zodiack or line of life, is correspondent unto the growth or declination of man. For setting out from infancy, we increase, not equally, or regularly attain to our state or perfection; nor when we descend from our state, is our declination equal, or carrieth us with even paces unto the grave. For as Hippocrates affirmeth, a man is hottest in the first day of his life, and coldest in the last; his natural heat setteth forth most vigorously at first, and declineth most sensibly at last. And so though the growth of man end not perhaps until twenty-one, yet is his stature more advanced in the first septenary than in the second, and in the second more than in the third, and more indeed in the first seven years, than in the fourteen succeeding; for what stature we attain unto at seven years, we do sometimes but double, most times come short of at one and twenty. And so do we decline again: For in the latter age upon the tropick and first descension from our solstice, we are scarce sensible of declination: but declining further, our decrement accelerates, we set apace, and in our last days precipitate into our graves. And thus are also our progressions in the womb, that is, our formation, motion, our birth or exclusion. For our formation is quickly effected, our motion appeareth later, and our exclusion very long after: if that be true which Hippocrates and Avicenna have declared, that the time of our motion is double unto that of formation, and that of exclusion treble unto that of motion. As if the infant be formed at thirty-five days, it moveth at seventy, and is born the two hundred and tenth day, that is, the seventh month; or if it receives not formation before forty-five days, it moveth the ninetieth day, and is excluded in the two hundred and seventieth, that is, the ninth month.

There are also certain popular prognosticks drawn from festivals in the calendar, and conceived opinions of certain days in months; so is there a general tradition in most parts of Europe, that inferreth the coldness of succeeding winter from the shining of the sun upon Candlemas day, or the purification of the Virgin Mary, according to the proverbial distich,

Si Sol splendescat Mariâ purificante,
Major erit glacies post festum quam fuit ante.

So is it usual among us to qualify and conditionate the twelve months of the year, answerable unto the temper of the twelve days in Christmas; and to ascribe unto March certain borrowed days from April, all which men seem to believe upon annual experience of their own, and the received traditions of their forefathers.

Now it is manifest, and most men likewise know, that the calendars of these computers, and the accounts of these days are very different: the Greeks dissenting from the Latins, and the Latins from each other: the one observing the Julian or ancient account, as Great Britain and part of Germany; the other adhering to the Gregorian or new account, as Italy, France, Spain, and the United Provinces of the Netherlands. Now this latter account, by ten days at least, anticipateth the other; so that before the one beginneth the account, the other is past it; yet in the several calculations, the same events seem true, and men with equal opinion of verity, expect and confess a confirmation from them all. Whereby is evident the oraculous authority of tradition, and the easy seduction of men,[9] neither enquiring into the verity of the substance, nor reforming upon repugnance of circumstance.

And thus may divers easily be mistaken who superstitiously observe certain times, or set down unto themselves an observation of unfortunate months, or days, or hours. As did the Egyptians, two in every month, and the Romans the days after the nones, ides, and calends. And thus the rules of navigators must often fail, setting down, as Rhodiginus observeth, suspected and ominous days in every month, as the first and seventh of March, and fifth and sixth of April, the sixth, the twelfth, and fifteenth of February. For the accounts hereof in these months are very different in our days, and were different with several nations in ages past, and how strictly soever the account be made, and even by the selfsame calendar, yet it is possible that navigators may be out. For so were the Hollanders, who passing westward through *fretum le Mayre*, and compassing the globe, upon their return into their own country found that they had lost a day. For if two men at the same time travel from the same place, the one eastward, the other westward, round about the earth, and meet in the same place from whence they first set forth, it will so fall out that he which hath moved eastward against the diurnal motion of the sun, by anticipating daily something of its circle with its own motion, will gain one day; but he that travelleth westward,[1] with the motion of the sun, by seconding its revolution, shall lose or come short a day; and therefore also upon these grounds that Delos was seated in the middle of the earth, it was no exact decision, because two eagles let fly east and west by Jupiter, their meeting fell out just in the island Delos.

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[9] *men.*] By the jugling Priests in the old mythologies of the heathen deytyes, trulye taxte by the poet under that "*Quicquid Græcia mendax mandat in historiis.*—*Wr.*

CHAPTER V.

A digression of the wisdom of God in the site and motion of the Sun.

HAVING thus beheld the ignorance of man in some things, his error and blindness in others, that is, in the measure of duration both of years and seasons, let us awhile admire the wisdom of God in this distinguisher of times, and visible deity (as some have termed it) the sun, which, though some from its glory adore, and all for its benefits admire, we shall advance from other considerations, and such as illustrate the artifice of its Maker. Nor do we think we can excuse the duty of our knowledge, if we only bestow the flourish of poetry hereon, or those commendatory conceits which popularly set forth the eminency of this creature, except we ascend unto subtiler considerations, and such, as rightly understood, convincingly declare the wisdom of the Creator. Which since a Spanish physician * hath begun, we will enlarge with our

* *Valerius de Philos. Sacr.*

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[1] *westward.*] Captain Bodman, an auncient and discreete gentleman, and learned, for his many services to the State, being admitted a poore Knight at Windsor, was wont to tell mee, that at their returne from surrounding the world with Sir Francis Drake in the yeare 1579, they found that they lost a daye in their accomptes of their daylye saylinge, which agrees with this excellent observation of Dr. Browne; for their voyage was from England to the Streits of Magellan, and soe round by the Moluccas and Cape of Good Hope, back to England, which was totalye with the sonne, and therefore what they observed with admiration, concerning the losse of a day in their accompt, had a manifest reason and cause to justifie the trueth of that observation, and that itt could not possiblye bee otherwise.—*Wr.*

deductions, and this we shall endeavour from two considerations, its proper situation and wisely ordered motion.

And first, we cannot pass over his providence, in that it moveth at all, for had it stood still, and were it fixed like the earth, there had been then no distinction of times, either of day or year, of spring, of autumn, of summer, or of winter; for these seasons are defined by the motions of the sun: when that approacheth nearest our zenith, or vertical point, we call it summer; when furthest off, winter; when in the middle spaces, spring or autumn; whereas, remaining in one place, these distinctions had ceased, and consequently the generation of all things, depending on their vicissitudes; making in one hemisphere a perpetual summer, in the other a deplorable and comfortless winter.[2] And thus had it also been continual day unto some, and perpetual night unto others, for the day is defined by the abode of the sun above the horizon, and the night by its continuance below; so should we have needed another sun, one to illustrate our hemisphere, a second to enlighten the other, which inconvenience will ensue in what site soever we place it, whether in the poles or the equator, or between them both; no spherical body, of what bigness soever, illuminating the whole sphere of another, although it illuminate something more than half of a lesser, according unto the doctrine of the opticks.

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[2] *winter.*] All this must of necessity evidentlye follow, unlesse (according to the supposition of Copernicus, for I suppose it was but a postulate of art, noe parte of his creed) that the son is fixed in the midst or center of this universal frame of the world, altogether immoovable, and that the earth, with all the rest of the elements, is annually caryed round about the sonne in the sphere between Mars and Venus, parting that lovinge couple of godlings by its boysterous intrusion, but the mischeef is that besides this annual motion of the earth, mounted like Phæthon in the chariot and throne of the sonne, the Copernicans are forced, contrary to their own principles, that *unius corporis cœlestis* (for soe you must nowe accompte itt, though a dul and opacous planet, *unius est motus simplex,*) to ascribe two other motions to the earth; the one a vertiginous rotation, whirling about his own center, wherby turning toward the son causeth daye, and turning from the son, night; both of them every twenty-four hours; the other a tottering motion of inclination to the son the sommer halfe yeare, and of reclination from the son in the halfe halfe, from whence must of necessity follow two vast and unconcedable postulates. First, that as the son, in his old sphere, is supposed in respect of his distance from the center to moove noe lesse than 18000 miles every minute of an hour, yf the earth bee in the sons place, they must perforce acknowledge the same pernicitye in the earth, and yet not perceptible to our sense, nor to the wisest of the world, since the creation till our times. But to salve this, as they thinke, they suppose and postulate the second motion of rotation or whirling on his owne center, which others conceive to bee diametrally opposite to Scripture: but then there recoyles upon them this strange consequence that the earthe being 21600 miles in compass, and whirling rounde every twenty-four howres, caryes every towne and howse 895 miles every houre, and yet not discernablye.—*Wr.*

His wisdom is again discernible, not only in that it moveth at all, and in its bare motion, but wonderful in contriving the line of its revolution which is so prudently effected, that by a vicissitude in one body and light it sufficeth the whole earth affording thereby a possible or pleasurable habitation in every part thereof, and that is the line ecliptick, all which to effect by any other circle it had been impossible. For first, if we imagine the sun to make its course out of the ecliptick, and upon a line without any obliquity, let it be conceived within that circle that is either on the equator, or else on either side; for if we should place it either in the meridian or colours, beside the subversion of its course from east to west, there would ensue the like incommodities. Now if we conceive the sun to move between the obliquity of this ecliptick in a line upon one side of the equator, then would the sun be visible but unto one pole, that is the same which was nearest unto it. So that unto the one it would be perpetual day, unto the other perpetual night; the one would be oppressed with constant heat, the other with insufferable cold, and so the defect of alternation would utterly impugn the generation of all things, which naturally require a vicissitude of heat to their production, and no less to their increase and conservation.

But if we conceive it to move in the equator, first unto a parallel sphere, or such as have the pole for their zenith, it would have made neither perfect day nor night. For being in the equator it would intersect their horizon, and be half above and half beneath it, or rather it would have made perpetual night to both; for though in regard of the rational horizon, which bisecteth the globe into equal parts, the sun in the equator would intersect the horizon; yet in respect of the sensible horizon, which is defined by the eye, the sun would be visible unto neither. For if as ocular witnesses report, and some also write, by reason of the convexity of the earth, the eye of man under the equator cannot discover both the poles, neither would the eye under the poles discover the sun in the equator. Thus would there nothing fructify either near or under them, the sun being horizontal to the poles, and of no considerable altitude unto parts a reasonable distance from them. Again, unto a right sphere, or such as dwell under the equator, although it made a difference in day and night, yet would it not make any distinction of seasons; for unto them it would be constant summer, it being always vertical, and never deflecting from them. So had there been no fructification at all, and the countries subjected would be as unhabitable, as indeed antiquity conceived them.

Lastly, it moving thus upon the equator, unto what position soever, although it had made a day, yet could it have made no year, for it could not have had those two motions[3] now ascribed unto it, that is, from east to west, whereby it makes the day, and likewise from west to east, whereby the year is computed. For according to received astronomy, the poles of the equator are the same with those of the *primum mobile.* Now it is impossible that on the same circle,[4] having the same poles, both these motions, from opposite terms, should be at the same time performed, all which is salved, if we allow an obliquity in his annual motion, and conceive him to move upon the poles of the zodiack, distant from those of the world, twenty-three degrees and an half. Thus may we discern the necessity of its obliquity, and how inconvenient its motion had been upon a circle parallel to the equator, or upon the equator itself.

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[3] *two motions.*] The motion from east to west is cald the motion of the world, bycause by itt all the whole frame of the universe is caryed round every 24 howres, and among the rest of the cælestial lights the sun alsoe, to whom this motion does not belong but passively onlye, and therefore heere was noe feare of crossing that undoubted principle which unavoydably recoyls upon the Copernicans, who to make good their hypothesis, fancye a rotation of dinetical, that is, a whirlinge rapture of the earthe about his owne axe every 24 houres, that is, 900 miles every howre, which is more impossible then for the heaven which wee call the primum mobile to turne about 400,000 miles every houre; unless they thinke that he who made itt soe infinitelye vast in compasse and in distance from us, could not make itt as swift in motion alsoe, as he makes his angels, or has he made his owne bodye in his ascention, or as he makes the lightning or the light itself.

The compass of the earth, which is 21600 miles divided by 24 leaves in the quotient 937 $\frac{12}{24}$ i. e. $\frac{1}{2}$ of miles, and soe many the Copernicans thinke the earth turnes every howre; that is above 15 miles every minute of an houre, and about $\frac{1}{4}$ of a mile every second, i. e. swifter then the natural motion of the heart. Proculdubio loca terræ sub polis sita, nequeunt ab æquatoris subjectis cerni: cum horison terrestris nusquam in ipso oceano tranquillo 60 miliarium visu terminetur: at polos cœli posse ab iisdem terræ incolis simul conspici, manifestum ex rarefactione quæ sydera attollit ultra distantiam horizontis rationalis.—*Wr.*

[4] *circle.*] Globe.—*Wr.*

Now with what providence this obliquity is determined, we shall perceive upon the ensuing inconveniences from any deviation. For first, if its obliquity had been less (as instead of twenty-three degrees, twelve or the half thereof) the vicissitude of seasons appointed for the generation of all things would surely have been too short; for different seasons would have huddled upon each other, and unto some it had not been much better than if it had moved on the equator. But had the obliquity been greater than now it is, as double, or of 40 degrees, several parts of the earth had not been able to endure the disproportionable differences of seasons, occasioned by the great recess, and distance of the sun. For unto some habitations the summer would have been extreme hot, and the winter extreme cold; likewise the summer temperate unto some, but excessive and in extremity unto others, as unto those who should dwell under the tropick of Cancer, as then would do some part of Spain, or ten degrees beyond, as Germany, and some part of England, who would have summers as now the Moors of Africa. For the sun would sometime be vertical unto them; but they would have winters like those beyond tbe arctic circle, for in that season the sun would be removed above 80 degrees from them. Again, it would be temperate to some habitations in the summer, but very extreme in the winter; temperate to those in two or three degrees beyond the arctic circle, as now it is unto us, for they would be equidistant from that tropic, even as we are from this at present. But the winter would be extreme, the sun being removed above an hundred degrees, and so consequently would not be visible in their horizon, no position of sphere discovering any star distant above 90 degrees, which is the distance of every zenith from the horizon. And thus, if the obliquity of this circle had been less, the vicissitude of seasons had been so small as not to be distinguished; if greater, so large and disportionable as not to be endured.

Now for its situation, although it held this ecliptic line, yet had it been seated in any other orb,[5] inconveniences would ensue of condition unlike the former; for had it been placed in the lowest sphere of the moon, the year would have consisted but of one month, for in that space of time it would have passed through every part of the ecliptic; so would there have been no reasonable distinction of seasons required for the generation and fructifying of all things, contrary seasons which destroy the effects of one another so suddenly succeeding. Besides, by this vicinity unto the earth, its heat had been intolerable; for if, as many affirm,[6] there is a different sense of heat from the different points of its proper orb, and that in the apogeum or highest point, which happeneth in Cancer, it is not so hot under that tropic, on this side the equator, as unto the other side in the perigeum or lowest part of the eccentric, which happeneth in Capricornus, surely, being placed in an orb far lower, its heat would be unsufferable, nor needed we a fable to set the world on fire.

But had it been placed in the highest orb, or that of the eighth sphere, there had been none but Plato's year, and a far less distinction of seasons; for one year had then been many, and according unto the slow revolution of that orb which absolveth not his course in many thousand years, no man had lived to attain the account thereof. These are the inconveniences ensuing upon its situation in the extreme orbs, and had it been placed in the middle orbs of the planets, there would have ensued absurdities of a middle nature unto them.

Now whether we adhere unto the hypothesis of Copernicus,[7] affirming the earth to move and the sun to stand still; or whether we hold, as some of late have concluded, from the spots in the sun, which appear and disappear again, that besides the revolution it maketh with its orbs, it hath also a dinetical[8] motion, and rolls upon its own poles; whether I say we affirm these or no, the illations before mentioned are not thereby infringed. We therefore conclude this contemplation, and are not afraid to believe it may be literally said of the wisdom of God, what men will have but figuratively spoken of the works of Christ, that if the wonders thereof were duly described, the whole world, that is, all within the last circumference, would not contain them. For as his wisdom is infinite, so cannot the due expressions thereof be finite, and if the world comprise him not, neither can it comprehend the story of him.

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[5] *orb.*] Orbit.

[6] *as many affirm.*] Especially Scaliger, in that admirable work of his exercitations upon Cardan de Subtilitate. *Exercit.* 99, § 2, p. 342.—*Wr.*

[7] *Copernicus.*] Copernicus, to make good his hypothesis, is forced to ascribe a triple motion to the earthe; the first annuall, round about the sonne, which hee places in the midst of the universe, and the earthe to bee caryed, as the sonne was ever supposed to be, in a middle orbe between Venus and Mars; the second not a motion of declination from the æquator to bothe the tropicks onlye, causinge the different seasons of the yeare, but more properlye a motion of inclination likewise to the sonne, which supposes also the poles of the earth to bee mooved, and the third motion is that called dineticall, or rotation upon his owne axis, causing day and night.—*Wr.*

CHAPTER VI.

Concerning the vulgar opinion, that the earth was slenderly peopled before the flood.

BESIDE the slender consideration, men of latter times do hold of the first ages, it is commonly opinioned, and at first thought generally imagined, that the earth was thinly inhabited, at least not remotely planted, before the flood, whereof there being two opinions, which seem to be of some extremity, the one too largely extending, the other too narrowly contracting the populosity of those times, we shall not pass over this point without some enquiry into it.[9]

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[8] *dinetical.*] Signifies whirlinge, from δίνη, which in the Greeke is a whirlpole, soe that the dineticall motion of the son is such, in their opinion, as that of the materiall globes, which wee make to turne upon their axis in a frame.—*Wr.*

[9] *whereof, &c.*] Instead of this passage, the first five editions have the following: "So that some conceiving it needless to be universal, have made the deluge particular, and about those parts where Noah built his ark; which opinion, because it is not only injurious to the text, human history, and common reason, but also derogatory to the great work of God, the universal inundation, it will be needful to make some further inquisition; and although predetermined by opinion, whether many might not suffer in the first flood, as they shall in the last flame, that is who knew not Adam nor his offence, and many perish in the deluge, who never heard of Noah or the ark of his preservation."

Now for the true enquiry thereof, the means are as obscure as the matter, which being naturally to be explored by history, human or divine, receiveth thereby no small addition of obscurity. For as for human relations, they are so fabulous in Deucalion's flood, that they are of little credit about Ogyges' and Noah's. For the heathens, as Varro accounteth, make three distinctions of time. The first from the beginning of the world unto the general deluge of Ogyges, they term *Adelon*,[1] that is, a time not much unlike that which was before time, immanifest and unknown; because thereof there is almost nothing or very obscurely delivered; for though divers authors have made some mention of the deluge, as Manethon the Egyptian Priest, Xenophon, *De Æquivocis,* Fabius Pictor, *De Aureo seculo,* Mar. Cato, *De Originibus*, and Archilochus the Greek, who introduceth also the testimony of Moses, in his fragment *De Temporibus*; yet have they delivered no account of what preceded or went before. Josephus, I confess, in his discourse against Appion, induceth the antiquity of the Jews unto the flood, and before, from the testimony of human writers, insisting especially upon Maseus of Damascus, Jeronymus Ægyptius, and Berosus; and confirming the long duration of their lives, not only from these, but the authority of Hesiod, Erathius, Hellanicus, and Agesilaus. Berosus, the Chaldean Priest, writes most plainly, mentioning the city of Enos, the name of Noah and his sons, the building of the ark, and also the place of its landing. And Diodorus Siculus hath in his third book a passage, which examined, advanceth as high as Adam; for the Chaldeans, saith he, derive the original of their astronomy and letters forty three thousand years before the monarchy of Alexander the Great; now the years whereby they computed the antiquity of their letters, being, as Xenophon interprets, to be accounted lunary, the compute will arise unto the time of Adam. For forty-three thousand lunary years make about three thousand six hundred thirty-four years, which answereth the chronology of time from the beginning of the world unto the reign of Alexander, as Annius of Viterbo computeth, in his comment upon Berosus.

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[1] *Adelon.*] To the heathen who either knew nothing of the creation, or at least beleeved itt not, the first distinction of time must needs bee ἄδηλον, that is utterly unknowne, for the space of 1656 from the creation to the flood, and the second, the *mythicon*, little better, as the very name they give itt, (yt is fabulous,) importes, whereas in the church of God, the third, (which they call historicall, and began not till after the 3000th yeare of the world's creation with them,) was continued in a perfect narration and unquestionable historye from the beginning of time through those 3000 yeares.—*Wr.*

The second space or interval of time is accounted from the flood unto the first Olympiad, that is, the year of the world 3174, which extendeth unto the days of Isaiah the prophet, and some twenty years before the foundation of Rome. This they term *mythicon* or fabulous, because the account thereof, especially of the first part, is fabulously or imperfectly delivered. Hereof some things have been briefly related by the authors above mentioned, more particularly by Dares Phrygius, Dictys Cretensis, Herodotus, Diodorus Siculus, and Trogus Pompeius. The most famous Greek poets lived also in this interval, as Orpheus, Linus, Museus, Homer, Hesiod; and herein are comprehended the grounds and first invention of poetical fables, which were also taken up by historical writers, perturbing the Chaldean and Egyptian records with fabulous additions, and confounding their names and stories with their own inventions.

The third time succeeding until their present ages, they term *historicon*, that is, such wherein matters have been more truly historified, and may therefore be believed. Of these times also have written Herodotus,[2] Thucydides, Xenophon, Diodorus, and both of these and the other preceding such as have delivered universal histories or chronologies; as (to omit Philo, whose narrations concern the Hebrews) Eusebius, Julius Africanus, Orosius, Ado of Vienna, Marianus Scotus, *Historia tripartita*, *Urspergensis*, Carion, Pineda, Salian, and with us Sir Walter Raleigh.

Now from the first hereof, that most concerneth us, we have little or no assistance, the fragments and broken records hereof inforcing not at all our purpose. And although some things not usually observed may be from thence collected, yet do they not advantage our discourse, nor any way make evident the point in hand. For the second, though it directly concerns us not, yet in regard of our last medium and some illustrations therein, we shall be constrained to make some use thereof. As for the last, it concerns us not at all; for treating of times far below us, it can no way advantage us. And though divers in this last age have also written of the first, as all that have delivered the general accounts of time, yet are their tractates little auxiliary unto ours, nor afford us any light to detenebrate and clear this truth.

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[2] *Herodotus.*] Yet the first parte of his historye begins not till the times of Apries, that is, Hophreas, whose reign began not till the seige of Jerusalem by Nabuchodonosor, 475 yeares after Saul, the first King of Israel, and at least 1224 yeares after the flood, of all which time (which to them was most obscure and fabulous) the sacred storye is soe plaine that thence Eusebius tooke his argument to convince the heathen of their novel idolatryes, the most whereof sprang upp in the end of these fabulous times.—*Wr.*

As for Holy Scripture and divine relation, there may also seem therein but slender information, there being only left a brief narration hereof by Moses, and such as affords no positive determination. For the text delivereth but two genealogies, that is, of Cain and Seth; in the line of Seth there are only ten descents, in that of Cain but seven, and those in a right line with mention of father and son, excepting that of Lamech, where is also mention of wives, sons, and a daughter. Notwithstanding, if we seriously consider what is delivered therein, and what is also deducible, it will be probably declared what is by us intended, that is, the populous and ample habitation of the earth before the flood. Which we shall labour to induce not from postulates and entreated maxims, but undeniable principles declared in Holy Scripture, that is, the length of men's lives before the flood, and the large extent of time from creation thereunto.

We shall only first crave notice, that although in the relation of Moses there be very few persons mentioned, yet are there many more to be presumed; nor when the Scripture in the line of Seth nominates but ten persons, are they to be conceived all that were of this generation. The Scripture singly delivering the holy line, wherein the world was to be preserved, first in Noah, and afterward in our Saviour. For in this line it is manifest there were many more born than are named, for it is said of them all, that they begat sons and daughters. And whereas it is very late before it is said they begat those persons which are named in the Scripture, the soonest at 65, it must not be understood that they had none before, but not any in whom it pleased God the holy line should be continued. And although the expression that they begat sons and daughters, be not determined to be before or after the mention of those, yet must it be before in some; for before it is said that Adam begat Seth at the 130th year, it is plainly affirmed that Cain knew his wife, and had a son, which must be one of the daughters of Adam, one of those whereof it is after said, he begat sons and daughters. And so, for ought can be disproved, there might be more persons upon earth than are commonly supposed when Cain slew Abel, nor the fact so heinously to be aggravated in the circumstance of the fourth person living. And whereas it is said, upon the nativity of Seth, God hath appointed me another seed instead of Abel, it doth not imply he had no other all this while; but not any of that expectation, or appointed (as his name implies) to make a progression in the holy line, in whom the world was to be saved, and from whom he should be born, that was mystically slain in Abel.

Now our first ground to induce the numerosity of people before the flood, is the long duration of their lives, beyond seven, eight, and nine hundred years. Which how it conduceth unto populosity, we shall make but little doubt, if we consider there are two main causes of numerosity in any kind or species, that is, a frequent and multiparous way of breeding, whereby they fill the world with others, though they exist not long themselves; or a long duration and subsistence, whereby they do not only replenish the world with a new annumeration of others, but also maintain the former account in themselves. From the first cause we may observe examples in creatures oviparous, as birds and fishes; in vermiparous, as flies, locusts, and gnats; in animals also viviparous, as swine and conies. Of the first there is a great example in the herd of swine in Galilee, although an unclean beast, and forbidden unto the Jews. Of the other a remarkable one in Athenæus, in the isle Astipalea, one of the Cyclades, now called Stampalia, wherein from two that were imported, the number so increased, that the inhabitants were constrained to have recourse unto the oracle of Delphos, for an invention how to destroy them.

Others there are which make good the paucity of their breed with the length and duration of their days, whereof their want not examples in animals uniparous. First, in bisulcous or cloven hoofed, as camels and beeves, whereof there is above a million annually slain in England. It is also said of Job, that he had a thousand yoke of oxen, and six thousand camels, and of the children of Israel passing into the land of Canaan, that they took from the Midianites threescore and ten thousand beeves, and of the army of Semiramis, that there were therein one hundred thousand camels. For solipeds or firm hoofed animals, as horses, asses, mules, &c. they are also in mighty numbers; so it is delivered that Job had a thousand she asses; that the Midianites lost sixty-one thousand asses. For horses, it is affirmed by Diodorus, that Ninus brought against the Bactrians two hundred eighty thousand horses; after him Semiramis five hundred thousand horses, and chariots one hundred thousand. Even in creatures sterile, and such as do not generate, the length of life conduceth much unto the multiplicity of the species; for the number of mules which live far longer than their dams or sires, in countries where they are bred, is very remarkable, and far more common than horses.

For animals multifidous, or such as are digitated or have several divisions in their feet, there are but two that are uniparous, that is, men and elephants, who, though their productions be but single, are notwithstanding very numerous. The elephant, as Aristotle affirmeth, carrieth the young two years, and conceiveth not again, as Edvardus Lopez affirmeth, in many years after, yet doth their age requite this disadvantage, they living commonly one hundred, sometime two hundred years. Now although they be rare with us in Europe, and altogether unknown unto America, yet in the two other parts of the world they are in great abundance, as appears by the relation of Garcias ab Horto, physician to the Viceroy at

Goa, who relates that at one venation the King of Siam took four thousand, and is of opinion they are in other parts in greater number than herds of beeves in Europe. And though this, delivered from a Spaniard unacquainted with our northern droves, may seem very far to exceed, yet must we conceive them very numerous, if we consider the number of teeth transported from one country to another, they having only two great teeth, and those not falling or renewing.

As for man, the disadvantage in his single issue is the same with these, and in the lateness of his generation somewhat greater than any; yet in the continual and not interrupted time hereof, and the extent of his days, he becomes at present, if not than any other species, at least more numerous than these before mentioned. Now being thus numerous at present, and in the measure of threescore, fourscore, or an hundred years, if their days extended unto six, seven, or eight hundred, their generations would be proportionably multiplied, their times of generation being not only multiplied, but their subsistence continued. For though the great-grandchild went on, the *petrucius** and first original would subsist and make one of the world, though he outlived all the terms of consanguinity, and became a stranger unto his proper progeny. So, by compute of Scripture, Adam lived unto the ninth generation, unto the days of Lamech, the father of Noah; Methuselah unto the year of the flood, and Noah was contemporary unto all from Enoch unto Abraham. So that although some died, the father beholding so many descents, the number of survivors must still be very great; for if half the men were now alive which lived in the last century, the earth would scarce contain their number. Whereas in our abridged and septuagesimal ages, it is very rare, and deserves a distich † to behold the fourth generation. Xerxes' complaint still remaining, and what he lamented in his army, being almost deplorable in the whole world; men seldom arriving unto those years whereby Methuselah exceeded nine hundred, and what Adam came short of a thousand, was defined long ago to be the age of man.

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* The term for that person for whom consanguineal-relations are accounted, as in the *Arbor civilis*.

† *Mater ait natæ, dic natæ filia, &c.*

Now, although the length of days conduceth mainly unto the numerosity of mankind, and it be manifest from Scripture they lived very long, yet is not the period of their lives determinable, and some might be longer livers' than we account that any were. For, to omit that conceit of some that Adam was the oldest man, in as much as he is conceived to be created in the maturity of mankind, that is at sixty, for in that age it is set down they begat children, so that adding this number unto his 930, he was 21 years older than any of his posterity; that even Methuselah was the longest liver of all the children of Adam we need not grant, nor is it definitively set down by Moses. Indeed of those ten mentioned in Scripture, with their several ages, it must be true, but whether those seven of the line of Cain and their progeny, or any of the sons' and daughters' posterity after them outlived those, is not expressed in Holy Scripture, and it will seem more probable that of the line of Cain some were longer lived than any of Seth, if we concede that seven generations of the one lived as long as nine of the other. As for what is commonly alleged that God would not permit the life of any unto a thousand, because, alluding unto that of David, no man should live one day in the sight of the Lord, although it be urged by divers, yet is it methinks an inference somewhat rabbinical, and not of power to persuade a serious examiner.

Having thus declared how powerfully the length of lives conduced unto the populosity of those times, it will yet be easier acknowledged if we descend to particularities, and consider how many in seven hundred years might descend from one man; wherein considering the length of their days, we may conceive the greatest number to have been alive together. And this, that no reasonable spirit may contradict, we will declare with manifest disadvantage: for whereas the duration of the world unto the flood was above 1600 years, we will make our compute in less than half that time. Nor will we begin with the first man, but allow the earth to be provided of women fit for marriage the second or third first centuries, and will only take as granted, that they might beget children at sixty, and at an hundred years have twenty, allowing for that number forty years. Nor will we herein single out

Methuselah, or account from the longest livers, but make choice of the shortest of any we find recorded in the text, excepting Enoch, who, after he had lived as many years as there be days in the year, was translated at 365. And thus from one stock of seven hundred years, multiplying still by twenty, we shall find the product to be one thousand three hundred forty seven millions, three hundred sixty-eight thousand, four hundred and twenty.

Century	1	20.
	2	400.
	3	8000.
	4	160,000.
	5	3,200,000.
	6	64,000,000.
	7	1,280,000,000.
Product		1,347,368,420.

Now, if this account of the learned Petavius will be allowed, it will make an unexpected increase, and a larger number than may be found in Asia, Africa, and Europe; especially if in Constantinople, the greatest city thereof, there be no more than Botero accounteth, seven hundred thousand souls. Which duly considered, we shall rather admire how the earth contained its inhabitants, than doubt its inhabitation; and might conceive the deluge not simply penal, but in some way also necessary, as many have conceived of translations,[3] if Adam had not sinned, and the race of man had remained upon earth immortal.

Now, whereas some to make good their longevity, have imagined that the years of their compute were lunary, unto these we must reply; that if by a lunary year they understand twelve revolutions of the moon, that is, 354 days, eleven fewer than in the solary year; there will be no great difference, at least not sufficient to convince or extenuate the question. But if by a lunary year they mean one revolution of the moon, that is, a month; they first introduce a year never used by the Hebrews in their civil accounts; and what is delivered before of the Chaldean years (as Xenophon gives a caution) was only received in the chronology of their arts. Secondly, they contradict the Scripture, which makes a plain enumeration of many months in the account of the deluge; for so it is expressed in the text. "In the tenth month, in the first day of the month were the tops of the mountains seen." Concordant whereunto is the relation of human authors; *Inundationes plures fuere, prima novimestris inundatio terrarum sub prisco Ogyge. Meminisse hoc loco par est post primum diluvium Ogygi temporibus notatum, cum novem, et amplius mensibus diem continua nox inumbrasset, Delon ante omnes terras radiis solis illuminatum sortitumque ex eo nomen.*[*] And lastly, they fall upon an absurdity, for they make Enoch to beget children about six years of age. For, whereas it is said he begat Methuselah at sixty-five, if we shall account every month[4] a year, he was at that time some six years and an half, for so many months are contained in that space of time.

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[3] *translations.*] That is, that after some terme of yeares they should not dye, but have been translated as Henoch was, into Heaven.—*Wr.*

Having thus declared how much the length of men's lives conduced unto the populosity of their kind, our second foundation must be the large extent of time, from the creation unto the deluge, (that is, according unto received computes about 1655 years,) almost as long a time as hath passed since the nativity of our Saviour.[5] And this we cannot but conceive sufficient for a very large increase, if we do but affirm what reasonable enquirers will not deny,—that the earth might be as populous in that number of years before the flood, as we can manifest it was in the same number after. And, whereas there may be conceived some disadvantage, in regard that at the creation the original of mankind was in two persons, but after the flood their propagation issued at least from six; against this we might very well set the length of their lives before the flood, which were abbreviated after, and in half this space contracted into hundreds and three scores. Notwithstanding, to equalize accounts, we will allow three hundred years, and so long a time as we can manifest from the Scripture, there were four men at least that begat children, Adam, Cain, Seth, and Enos; so shall we fairly and favourably proceed, if we affirm the world to have been as populous in sixteen hundred and fifty years before the flood, as it was in thirteen hundred after. Now how populous and largely inhabited it was within this period of time, we shall declare from probabilities, and several testimonies of Scripture and human authors.

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[*] *Xenophon de Æquivocis. Solinus.*

[4] *month*] The spirit in many places (as of Daniel, and the Apocalyps) by dayes means yeares: but in noe place yeares for dayes or monthes.—*Wr.*

[5] *Saviour.*] And according to this number there are, that take upon them to judge that when the yeares of the church's age comes to as many since Christ's birthe, as those yeares of the world had from the creation to the flood, the consummation or consumption of the world by fire prophesyed by St. Peter, 2d. Epist. 3 chap. v, 10, must needs bee then or thereabouts fulfilled, as itt was before by water at those years. For counting (say they) as the Apostle there does, that with God 1000 yeares are but as one daye, and that (as all agree) in this yeare of Christ, 1660, there are just 5600 yeares of the world past since the creation, that is almost 6 dayes of the weeke, and that the dayes of the world shal bee, as our Saviour foretold, much shortened, i. e. shall not continue to the full end of 6000 yeares, i. e. 6 of God's dayes: they conclude that the seventh day of æternal rest of the world and all the works therin cannot bee far of. But how far off, or how neere, is not for man to enquire, much less to define otherwise then by way of Christian caution, to bee always readye for the coming of that kingdome, which wee every (day) pray, may come speedilye. For doubtles yf 1600 yeares agoe the Spirit thought itt requisite to rowse them up with that memento, "the Lord is at hand, bee yee therefore sober and watche," itt may well bee an alarum to us, on whom the ends of the world are come.—*Wr.*

And first, to manifest the same near those parts of the earth where the ark is presumed to have rested, we have the relation of Holy Scripture, accounting the genealogy of Japhet, Cham, and Sem, and in this last, four descents unto the division of the earth in the days of Peleg, which time although it were not upon common compute much above an hundred years, yet were men at this time mightily increased. Nor can we well conceive it otherwise, if we consider they began already to wander from their first habitation, and were able to attempt so mighty a work as the building of a city and a tower, whose top should reach unto the heavens. Whereunto there was required no slender number of persons, if we consider the magnitude thereof, expressed by some, and conceived to be *turris Beli* in Herodotus;[6] and the multitudes of people recorded at the erecting of the like or inferior structures, for at the building of Solomon's temple there were threescore and ten thousand that carried burdens, and fourscore thousand hewers in the mountains, beside the chief of his officers three thousand and three hundred ; and at the erection of the pyramids in the reign of king Cheops, as Herodotus reports, there were *decem myriades,* that is, an hundred thousand men. And though it be said of the Egyptians,

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[6] *conceived to be, &c.*] Mr. Beke however, is of opinion that "the city and tower of Babel, the Babel of Nimrod and the Babel or Babylon of Nebuchadnezzar, were three totally distinct places," *Origenes Biblicæ*, p. 17.

> Porrum et cæpe nefas violare et frangere morsu ;*

yet did the sums expended in garlick and onions amount unto no less than one thousand six hundred talents.

The first monarchy or kingdom of Babylon is mentioned in Scripture under the foundation of Nimrod, which is also recorded in human history ; as beside Berosus, in Diodorus and Justin; for Nimrod of the Scriptures is Belus of the Gentiles, and Assur the same with Ninus his successor. There is also mention of divers cities, particularly of Nineveh and Resen, expressed emphatically in the text to be a great city.

That other countries round about were also peopled, appears by the wars of the monarchs of Assyria with the Bactrians, Indians, Scythians, Ethiopians, Armenians, Hyrcanians, Parthians, Persians, Susians; they vanquished (as Diodorus relateth) Egypt, Syria, and all Asia Minor, even from Bosphorus unto Tanais. And it is said, that Semiramis in her expedition against the Indians brought along with her the king of Arabia. About the same time of the Assyrian monarchy, do authors place that of the Sycionians in Greece, and soon after that of the Argives, and not very long after, that of the Athenians under Cecrops ; and within our period assumed are historified many memorable actions of the Greeks, as the expedition of the Argonauts, with the most famous wars of Thebes and Troy.

That Canaan also and Egypt were well peopled far within this period, besides their plantation by Canaan and Misraim, appeareth from the history of Abraham, who in less than 400 years after the flood, journeyed from Mesopotamia unto Canaan and Egypt, both which he found well peopled and policied into kingdoms. Wherein also in 430 years, from threescore and ten persons which came with Jacob into Egypt, he became a mighty nation; for it is said, at their departure, there journeyed from Rhamesis to Succoth about six hundred thousand on foot, that were men, besides children. Now how populous the land from whence they came was, may be collected not only from their ability in commanding such subjections and mighty powers under them, but from the several accounts of that kingdom delivered by Herodotus. And how soon it was peopled, is evidenced from the pillar of their king Osyris, with this incription in Diodorus; *Mihi pater est Saturnus deorum junior, sum vero Osyris rex, qui totum peragravi orbem usque, ad Indorum fines, ad eos quoque sum profectus qui septentrioni subjacent usque ad Istri fontes, et alias partes usque ad Oceanum.* Now, according unto the best determinations, Osyris was Misraim, and Saturnus Egyptius the same with Cham; after whose name Egypt is not only called in Scripture the land of Ham, but thus much is also testified by Plutarch; for in his treatise *de Osyride,* he delivereth that Egypt was called *Chamia, à Chamo Noe filio,* that is, from Cham the son of Noah. And if, according to the consent of ancient fathers, Adam was buried in the same place where Christ was crucified, that is mount Calvary, the first man ranged far before the flood, and laid his bones many miles from that place, where it 's presumed he received them. And this migration was the greater, if, as the text expresseth, he was cast out of the east side of paradise to till the ground; and as the position of the Cherubim implieth, who were placed at the east end of the garden to keep him from the tree of life.

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* Juvenal.

That the remoter parts of the earth were in this time inhabited, is also inducible from the like testimonies, for (omitting the numeration of Josephus, and the genealogies of the sons of Noah,) that Italy was inhabited appeareth from the records of Livy and Dionysius Halicarnasseus, the story of Æneas, Evander and Janus, whom Annius of Viterbo, and the chorographers of Italy, do make to be the same with Noah. That Sicily was also peopled is made out from the frequent mention thereof in Homer, the records of Diodorus and others, but especially from a remarkable passage touched by Aretius and Ranzanus, Bishop of Lucerium, but fully explained by Thomas Fazelli, in his accurate history of Sicily, that is, from ancient inscription in a stone at Panormo, expressed by him in its proper characters, and by a Syrian thus translated: *Non est alius Deus præter unum Deum, non est alius potens præter eundem Deum, neque est alius victor præter eundem quem colimus Deum: Hujus turris præfectus est* Sapha *filius* Eliphat, *filii* Esau, *fratris* Jacob, *filii* Isaac, *filii* Abraham*; et turri quidem ipsi nomen est* Baych, *sed turri huic proximæ nomen est* Pharath. The antiquity of the inhabitation of Spain is also confirmable, not only from Berosus in the plantation of Tubal, and a city continuing yet in his name, but the story of Gerion, the travels of Hercules and his pillars, and especially a passage in Strabo, which advanceth unto the time of Ninus, thus delivered in his fourth book; the Spaniards (saith he) affirm that they have had laws and letters above six thousand years. Now the Spaniards or Iberians observing (as Xenophon hath delivered) *Annum quadrimestrem,* four months unto a year, this compute will make up 2000 solary years, which is about the space of time from Strabo, who lived in the days of Augustus, unto the reign of Ninus.

That Mauritania and the coast of Africa were peopled very soon, is the conjecture of many wise men, and that by the Phœnicians,[7] who left their country upon the invasion of Canaan by the Israelites. For beside the conformity of the Punick or Carthaginian language with that of Phœnicia, there is a pregnant and very remarkable testimony hereof in Procopius, who in his second *de bello Vandalico,* recordeth that in a town of Mauritania Tingitana, there was to be seen upon two white columns in the Phœnician language these ensuing words; *Nos Maurici sumus qui fugimus à facie Jehoschue filii Nunis prædatoris.* The fortunate islands or Canaries were not unknown; for so doth Strabo interpret that speech in Homer of Proteus unto Menelaus.

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[7] *by the Phœnicians.*] "Tyri et Sidonis in Phœnicis litore civitatum Carthago colonia; unde et *Pœni,* sermone corrupto quasi *Phœni* appellantur" *Hieron.* See *Selden, De Diis Syris, Prolegomena,* cap. 2, p. 10-24.—*Jeff.*

Sed te qua terræ postremus terminus extat,
Elysium in Campum cœlestia numina ducunt.

The like might we affirm from credible histories both of France and Germany, and perhaps also of our own country. For omitting the fabulous and Trojan original delivered by Jeffrey of Monmouth, and the express text of Scripture, that the race of Japhet did people the isles of the Gentiles; the British original was so obscure in Cæsar's time, that he affirmeth the inland inhabitants were Aborigines, that is, such as reported that they had their beginning in the island. That Ireland our neighbour island was not long time without inhabitants, may be made probable by sundry accounts, although we abate the tradition of Bartholanus the Scythian, who arrived three hundred years[8] after the flood, or the relation of Giraldus, that Cæsaria, the daughter of Noah, dwelt there before.

Now should we call in the learned account of Bochartus,* deducing the ancient names of countries from Phœnicians, who by their plantations, discoveries, and sea negociations, have left unto very many countries, Phœnician denominations, the enquiry would be much shorter; and if Spain, in the Phœnician original, be but the region of conies, Lusitania, or Portugal, the country of almonds, if Britannica were at first Baratanaca, or the land of tin, and Ibernia or Ireland were but Ibernae, or the farthest inhabitation, and these names imposed and dispersed by Phœnician colonies, in their several navigations, the antiquity of habitations might be more clearly advanced.

Thus though we have declared how largely the world was inhabited within the space of 1300 years, yet must it be conceived more populous than can be clearly evinced; for a greater part of the earth hath ever been peopled, than hath

* *Bochart. Geog. Sacr. part.* 2.

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[8] *three hundred years.*] This yeare, 1650, is the 5600 yeare of the worlde since the creation; out of which, yf you take the yeare of the floodd, viz. in the yeare of the world 1656, and also the 300 yeares more here mentioned, the summe will be 1956, which being againe deducted out of the present yeare of the world 5600, there remaine 3644 yeares this yeare, since Bartolanus is said to arrive in Irelande, which neither Scripture nor any story mentions, and therefore is a feigned and foolish tradition.—*Wr.*

been known or described by geographers, as will appear by the discoveries of all ages. For neither in Herodotus or Thucydides do we find any mention of Rome, nor in Ptolemy of many parts of Europe, Asia, or Africa; and because many places we have declared of long plantation, of whose populosity notwithstanding or memorable actions we have no ancient story; if we may conjecture of these by what we find related of others, we shall not need many words, nor assume the half of 1300 years. And this we might illustrate from the mighty acts of the Assyrians, performed not long after the flood, recorded by Justine and Diodorus, who makes relation of expeditions by armies more numerous than have been ever since. For Ninus,[9] King of Assyria, brought against the Bactrians 700,000 foot, 200,000 horse, 10,600 chariots. Semiramis, his successor, led against the Indians 1,300,000 foot, 500,000 horse, 100,000 chariots, and as many upon camels.[1] And it is said Staurobates, the Indian king, met her with greater forces than she brought against him; all which was performed within less than four hundred years after the flood.

Now if any imagine the unity of their language did hinder their dispersion before the flood, we confess it some hindrance at first, but not much afterward. For though it might restrain their dispersion, it could not their populosity, which necessarily requireth transmigration and emission of colonies; as we read of Romans, Greeks, Phœnicians in ages past, and have beheld examples thereof in our days. We may also observe that after the flood, before the confusion of tongues, men began to disperse. For it is said they journeyed towards the east, and the Scripture itself expresseth a necessity conceived of their dispersion, for the intent of erecting the tower is so delivered in the text, "lest we be scattered abroad upon the face of the earth."

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[9] *Ninus.*] Soe Ninus had in his armye 974,200, reckoning to every chariot six fightinge men (on each side three) besides the charioteer; but Semiramis, her army was not less then 2,000,000, i. e. above twice soe manye; and yf Staurobates his army were greater, doubtless never any since that time came neere those numbers. Then reckoninge at the least of horses, 4 in each chariot, and of camels, in all 500,000 beasts in her armye, and as many or more on the adverse side, what countryes could hold, much less feed them? For Sennacherib's army did not reach to the twentithe parte of these conjoyned numbers, and yet he boasted to have drunk the rivers drye.—*Wr.*

[1] *upon camels.*] 300,000 ox hides stuffed to represent elephants, and carried upon camels.—*Jeff.*

Again, if any apprehend the plantation of the earth more easy in regard of navigation and shipping discovered since the flood, whereby the islands and divided parts of the earth are now inhabited; he must consider that whether there were islands or no before the flood, is not yet determined, and is with probability denied by very learned authors.

Lastly, if we shall fall into apprehension that it was less inhabited, because it is said in the sixth of Genesis, about 120 years before the flood, "And it came to pass that when men began to multiply upon the face of the earth;" beside that this may be only meant of the race of Cain, it will not import they were not multiplied before, but that they were at that time plentifully increased; for so is the same word used in other parts of Scripture. And so is it afterward in the ninth chapter said, that "Noah began to be an husbandman," that is, he was so, or earnestly performed the acts thereof; so is it said of our Saviour, that he "began to cast them out that bought and sold in the temple." that is, he actually cast them out, or with alacrity effected it.

Thus have I declared some private and probable conceptions in the enquiry of this truth; but the certainty hereof let the arithmetic of the last day determine, and therefore expect no further belief than probability and reason induce. Only desire men would not swallow dubiosities for certainties, and receive as principles points mainly controvertible; for we are to adhere unto things doubtful in a dubious and opinionative way. It being reasonable for every man to vary his opinion according to the variance of his reason, and to affirm one day what he denied another. Wherein although at last we miss of truth, we die notwithstanding in harmless and inoffensive errors, because we adhere unto that, whereunto the examen of our reasons, and honest inquiries induce us.[2]

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[2] *induce us.*] And whatsoever is beyond this search must bee imputed to an invincible ignorance.—*Wr.*

CHAPTER VII.

Of East and West.

THE next shall be of east and west; that is, the proprieties and conditions ascribed unto regions respectively unto those situations; which hath been the obvious conception of philosophers and geographers, magnifying the condition of India, and the eastern countries, above the setting and occidental climates: some ascribing hereto the generation of gold, precious stones, and spices, others the civility and natural endowments of men; conceiving the bodies of this situation to receive a special impression from the first salutes of the sun, and some appropriate influence from his ascendent and oriental radiations. But these proprieties, affixed unto bodies, upon considerations reduced from east, west, or those observable points of the sphere, how specious and plausible soever, will not upon enquiry be justified from such foundations.

For to speak strictly, there is no east and west in nature, nor are those absolute and invariable, but respective and mutable points, according unto different longitudes, or distant parts of habitation, whereby they suffer many and considerable variations. For first, unto some the same part will be east or west in respect of one another, that is, unto such as inhabit the same parallel, or differently dwell from east to west. Thus, as unto Spain Italy lieth east, unto Italy Greece, unto Greece Persia, and unto Persia China; so again, unto the country of China Persia lieth west, unto Persia Greece, unto Greece Italy, and unto Italy Spain. So that the same country is sometimes east and sometimes west; and Persia though east unto Greece, yet is it west unto China.

Unto other habitations the same point will be both east and west; as unto those that are Antipodes or seated in points of the globe diametrically opposed. So the Americans are antipodal unto the Indians, and some part of India is both east and west unto America, according as it shall be regarded from one side or the other, to the right or to the left; and setting out from any middle point, either by east or west, the distance unto the place intended is equal, and in the same space of time in nature also performable.

To a third that have the poles for their vertex[3] or dwell in the position of a parallel sphere, there will be neither east nor west, at least the greatest part of the year. For if, (as the name oriental implieth) they shall account that part to be east wherever the sun ariseth, or that west where the sun is occidental or setteth; almost half the year they have neither the one nor the other. For half the year it is below the horizon, and the other half it is continually above it, and circling[4] round about them intersecteth not the horizon, nor leaveth any part for this compute. And if (which will seem very reasonable) that part should be termed the eastern point where the sun at equinox, and but once in the year, ariseth, yet will this also disturb the cardinal accounts, nor will it with propriety admit that appellation. For that surely cannot be accounted east which hath the south on both sides; which notwithstanding this position must have. For if, unto such as live under the pole, that be only north which is above them, that must be southerly which is below them, which is all the other portion of the globe, beside that part possessed by them. And thus, these points of east and west being not absolute in any, respective in some, and not at all relating unto others, we cannot hereon establish so general considerations, nor reasonably erect such immutable assertions, upon so unstable foundations.

Now the ground that begat or promoted this conceit was, first, a mistake in the apprehension of east and west, considering thereof as of the north and south, and computing by these as invariably as by the other. But herein, upon second thoughts, there is a great disparity: for the north and southern pole are the invariable terms of that axis whereon the heavens do move, and are therefore incommunicable and fixed points, whereof the one is not apprehensible in the other. But with east and west it is quite otherwise: for the revolution of the orbs being made upon the poles of north and south, all other points about the axis are mutable; and wheresoever therein the east point be determined, by succession of parts in one revolution every point becometh east. And so, if where the sun ariseth that part be termed east, every habitation, differing in longitude, will have this point also different, in as much as the sun successively ariseth unto every one.[5]

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[3] *vertex.*] This is spoken by way of supposition, yf any such there be that dwell under the pole.—*Wr.*

[4] *and circling.*] And aboutt the tenthe of Marche, before and after, the discus of the son wheles about the verge of the horizon, and rises not totally above itt for the space of almost as many dayes as there are minutes in his diameter: appearing by those degrees in every circulation (of 24 houres time) more and more conspicuous, as hee uses to doe, when he gets out of total eclypse.—*W.*

The second ground, although it depend upon the former, approacheth nearer the effect; and that is, the efficacy of the sun, set out and divided according to priority of ascent; whereby his influence is conceived more favourable unto one country than another, and to felicitate India more than any after. But hereby we cannot avoid absurdities, and such as infer effects controlable by our senses. For first, by the same reason that we affirm the Indian richer than the American, the American will also be more plentiful than the Indian, and England or Spain more fruitful than Hispaniola or golden Castile;[6] in as much as the sun ariseth unto the one sooner than the other; and so accountably unto any nation subjected unto the same parallel, or with a considerable diversity of longitude from each other. Secondly, an unsufferable absurdity will ensue; for thereby a country may be more fruitful than itself. For India is more fertile than Spain, because more east, and that the sun ariseth first unto it; Spain likewise by the same reason more fruitful than America, and America than India; so that Spain is less fruitful than that country, which a less fertile country than itself excelleth.

Lastly, if we conceive the sun hath any advantage by priority of ascent, or makes thereby one country more happy than another, we introduce injustifiable determinations, and impose a natural partiality on that luminary, which being equidistant from the earth, and equally removed in the east as in the west, his power and efficacy in both places must be equal, as Boëtius hath taken notice, and Scaliger * hath graphically declared. Some have therefore forsaken this refuge of the sun, and to salve the effect have recurred unto the influence of the stars, making their activities national, and appropriating their powers unto particular regions. So Cardan conceiveth, the tail of Ursa Major peculiarly respecteth Europe: whereas indeed once in twenty-four hours it also absolveth its course over Asia and America. And therefore it will not be easy to apprehend those stars peculiarly glance on us, who must of necessity carry a common eye and regard unto all countries, unto whom their revolution and verticity is also common.

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[5] *every one.*] Every generall Meridian hath a several east pointe and west (in their horizon) that live under itt.—*Wr.*

[6] *Castile.*] Virginia is about 7 houres distant from London, for when 'tis noone heere, 'tis 5 in the morne with them. —*Wr.*

The effects therefore, or[7] different productions in several countries, which we impute unto the action of the sun, must surely have nearer and more immediate causes than that luminary.[8] And these if we place in the propriety of clime, or condition of soil wherein they are produced, we shall more reasonably proceed, than they who ascribe them unto the activity of the sun. Whose revolution being regular, it hath no power nor efficacy peculiar from its orientality, but equally disperseth his beams unto all which equally, and in the same restriction, receive his lustre. And being an universal and indefinite agent, the effects or productions we behold receive not their circle from his causality, but are determined by the principles of the place, or qualities of that region which admits them. And this is evident not only in gems, minerals, and metals, but observable in plants and animals; whereof some are common unto many countries, some peculiar unto one, some not communicable unto another.

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* *De gemmis exercitat.*

[7] *or*] Reade *of*.—*Wr.* The Dr's is the true reading, see it repeated a few lines further on.

[8] *luminary.*] Cald by God the greate lighte.—*Wr.*

For the hand of God that first created the earth, hath with variety disposed the principles of all things; wisely contriving them in their proper seminaries, and where they best maintained the intention of their species; whereof if they have not a concurrence, and be not lodged in a convenient matrix, they are not excited by the efficacy of the sun; nor failing in particular causes, receive a relief or sufficient promotion from the universal. For although superior powers co-operate with inferior activities, and many (as some conceive) carry a stroke in the plastick and formative draught of all things, yet do their determinations belong unto particular agents, and are defined from their proper principles. Thus the sun which with us is fruitful in the generation of frogs, toads, and serpents, to this effect proves impotent in our neighbour island;[9] wherein as in all other, carrying a common aspect, it concurreth but unto predisposed effects, and only suscitates those forms, whose determinations are seminal, and proceed from the idea of themselves.

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[9] *which with us, &c.*] Itt is a true and remarkable thing that wheras Islip and Bletchinton in Oxon shire are not distant above 2 miles, and noe river between, yet noe man living remembers a snake or adder found alive in Bletchinton (which abounds with frogs and toods) and yf they bee brought from Islip, or other partes, unto that towne, they dye, as venemous things doe on Irish earthe, brought thence by ship into our gardens in England: nor is this proper to Irish earthe, but to the timber brought thence, as appeares in that vast roof of King's College Chappel in Cambridge, where noe man ever saw a spider, or their webs, bycause itt is all of Irish timber.—*Wr.*

On reading the preceding passage, I wrote to a friend in Cambridge requesting that some inquiry might be made as to the matter of fact. I subjoin an extract from his reply:—

"Ever since I was a boy, I have heard the traditional account of the roof and more particularly the organ loft of King's College Chapel, being formed of Irish oak, and that no spiders or their webs are to be found upon it. I yesterday took an opportunity of making a personal enquiry and examination—two curators had, I found, since passed to the silent tomb, a third whom I now met with had not even heard of the circumstance, though an intelligent man, and who seemed to enter at once into the nature of my enquiries. He wished me to go up to the roof and examine for myself, assuring me, that no trouble was taken to sweep it over at any time; I went up and could not succeed in discovering the least appearance of a cobweb, much less of a spider; from the stone roof which is underneath the wooden roof, he informed me that in some parts the spider's webs were very abundant and troublesome.

I saw the organist, who seemed to be aware of the tradition, though almost forgotten, and who told me there was plenty of dust for want of proper care of the place, but he believed there were no spiders; he had officiated many years, but had never seen one.

The curator has promised to bring me a spider or web if he can find one, and seemed much pleased with the, to him, novel information."

The Hon. D. Barrington (in the *Philosophical Transactions*, vol. lix, p. 30,) says that he had examined several ancient timber roofs, without being able to detect any spider's webs. He accounts however for this, on the principle that *flies* are not to be found in such situations.

Now, whereas there be many observations concerning east, and divers considerations of art which seem to extol the quality of that point, if rightly understood they do not really promote it. That the astrologer takes account of nativities from the ascendant, that is, the first house of the heavens, whose beginning is toward the east, it doth not advantage the conceit. For he establisheth not his judgment upon the orientality thereof, but considereth therein his first ascent above the horizon; at which time its efficacy becomes observable, and is conceived to have the signification of life, and to respect the condition of all things, which at the same time arise from their causes, and ascend to their horizon with it. Now this ascension indeed falls out respectively in the east; but, as we have delivered before, in some positions there is no eastern point from whence to compute these ascensions. So is it in a parallel sphere: for unto them six houses are continually depressed, and six never elevated; and the planets themselves, whose revolutions are of more speed, and influences of higher consideration, must find in that place a very imperfect regard; for half their period they absolve above, and half beneath the horizon. And so, for six years, no man can have the happiness to be born under Jupiter: and for fifteen together all must escape the ascendant dominion of Saturn.

That Aristotle, in his *Politicks*, commends the situation of a city which is open towards the east and admitteth the rays of the rising sun, thereby is implied no more particular efficacy than in the west: but that position is commended, in regard the damps and vaporous exhalations, engendered in the absence of the sun, are by his returning rays the sooner dispelled; and men thereby more early enjoy a clear and healthy habitation.[1] Upon the like considerations it is, that

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and therefore spiders do not frequent them. How would this remark agree with the number of cobwebs found in the stone roof of King's College?

[1] *habitation.*] The waters of those springs are held to bee most medicinal (of all others) which rise into the easte, for this very reason here alleaged: hence in the west parts of England, to difference such from all others, they call them by a significant name, East-up-springs, intimating by that proper name, a proper kind of excellencye, above other springs, especially yf the soile from whence they rise bee chalke, or pure gravell.—*Wr.*

Marcus Varro* commendeth the same situation, and exposeth his farm unto the equinoxial ascent of the sun; and that Palladius adviseth the front of his edifice should so respect the south, that in the first angle it receive the rising rays of the winter sun, and decline a little from the winter setting thereof. And concordant hereunto is the instruction of Columella, *De positione villæ;* which he contriveth into summer and winter habitations, ordering that the winter lodgings regard the winter ascent of the sun, that is south-east; and the rooms of repast at supper, the equinoxial setting thereof, that is, the west; that the summer lodgings regard the equinoxial meridian: but the rooms of cenation in the summer, he obverts unto the winter ascent, that is, south-east; and the balnearies or bathing places, that they may remain under the sun until evening, he exposeth unto the summer setting, that is, north-west; in all which, although the cardinal points be introduced, yet is the consideration solary, and only determined unto the aspect or visible reception of the sun.

Jews and Mahometans in these and our neighbour parts are observed to use some gestures towards the east, as at their benediction, and the killing of their meat. And though many ignorant spectators, and not a few of the actors, conceive some magick or mystery therein, yet is the ceremony only topical, and in a memorial relation unto a place they honour. So the Jews do carry a respect and cast an eye upon Jerusalem, for which practice they are not without the example of their forefathers, and the encouragement of their wise king; for so it is said that Daniel "went into his house, and his windows being opened towards Jerusalem, he kneeled upon his knees three times a day, and prayed."† So is it expressed in the prayer of Solomon, "What prayer or supplication soever be made by any man, which shall spread forth his hands towards this house; if thy people go out to battle, and shall pray unto the Lord towards the city which thou hast chosen, and towards the house which I have chosen to build for thy name, then hear thou in heaven their prayer and their supplication, and maintain their cause." Now the observation hereof, unto the Jews that are dispersed westward, and such as most converse with us, directeth their regard unto the east; but the words of Solomon are appliable unto all quarters of heaven, and by the Jews of the east and south must be regarded in a contrary position. So Daniel in Babylon looking toward Jerusalem had his face toward the west. So the Jews in their own land looked upon it from all quarters: for the tribe of Judah beheld it to the north; Manasses, Zabulon, and Napthali unto the south; Reuben and Gad unto the west; only the tribe of Dan regarded it directly or to the due east. So when it is said, "When you see a cloud rise out of the west, you say there cometh a shower, and so it is;"* the observation was respective unto Judea; nor is this a reasonable illation, in all other nations whatsoever. For the sea lay west unto that country, and the winds brought rain from that quarter; but this consideration cannot be transferred unto India or China, which have a vast sea eastward, and a vaster continent toward the west. So likewise, when it is said in the vulgar translation, "Gold cometh out of the north,"† it is no reasonable inducement unto us and many other countries, from some particular mines septentrional unto his situation, to search after that metal in cold and northern regions, which we most plentifully discover in hot and southern habitations.

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* *De Re Rustica.*

† Dan. vi.

For the Mahometans, as they partake with all religions in something, so they imitate the Jews in this. For in their observed gestures, they hold a regard unto Mecca and Medina Talnaby, two cities in Arabia Felix, where their prophet was born and buried, whither they perform their pilgrimages, and from whence they expect he should return again. And therefore they direct their faces unto these parts; which, unto the Mahometans of Barbary and Egypt, lie east, and are in some point thereof unto many other parts of Turkey. Wherein notwithstanding there is no oriental respect; for with the same devotion on the other side, they regard these parts toward the west, and so with variety wheresoever they are seated, conforming unto the ground of their conception.

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* Luke xii.

† Job. xxxvii.

Fourthly, whereas in the ordering of the camp of Israel, the east quarter is appointed unto the noblest tribe, that is, the tribe of Judah, according to the command of God, "In the east side toward the rising of the sun shall the standard of the tribe of Judah pitch;"* it doth not peculiarly extol that point. For herein the east is not to be taken strictly, but as it signifieth or implieth the foremost place; for Judah had the van, and many countries through which they passed were seated easterly, unto them. Thus much is implied by the original, and expressed by translations which strictly conform thereto. So Tremellius, *Castra habentium ab anteriore parte Orientem versus, vexillum esto castrorum Judæ:* so hath R. Solomon Jarchi expounded it; the foremost or before is the east quarter, and the west is called behind. And upon this interpretation may all be salved that is allegeable against it. For if the tribe of Judah were to pitch before the tabernacle at the east, and yet to march first, as is commanded, Numb. x, there must ensue a disorder in the camp, nor could they conveniently observe the execution thereof. For when they set out from Mount Sinai, where the command was delivered, they made northward unto Rithmah; from Rissah unto Eziongaber about fourteen stations they marched south; from Almon Diblathaim through the mountains of Abarim and plains of Moab toward Jordan the face of their march was west. So that if Judah were strictly to pitch in the east of the tabernacle, every night he encamped in the rear; and if (as some conceive) the whole camp could not be less than twelve miles long, it had been preposterous for him to have marched foremost, or set out first, who was most remote from the place to be approached.

Fifthly, that learning, civility, and arts, had their beginning in the east, it is not imputable either to the action of the sun, or its orientality, but the first plantation of man in those parts, which unto Europe do carry the respect of east. For on the mountains of Ararat, this is, part of the hill Taurus, between the East Indies and Scythia, as Sir W. Raleigh accounts it, the ark of Noah rested; from the east they travelled that built the tower of Babel: from thence they were dispersed and successively enlarged, and learning, good arts, and all civility communicated. The progression whereof was very sensible, and if we consider the distance of time between the confusion of Babel, and the civility of many parts now eminent therein, it travelled late and slowly into our quarters. For notwithstanding the learning of bards and druids of elder times, he that shall peruse that work of Tacitus, *De moribus Germanorum*, may easily discern how little civility two thousand years had wrought upon that nation; the like he may observe concerning ourselves from the same author in the life of Agricola, and more directly from Strabo, who, to the dishonour of our predecessors, and the disparagement of those that glory in the antiquity of their ancestors, affirmeth the Britons were so simple, that though they abounded in milk, they had not the artifice of cheese.

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* Numb. ii.

Lastly, that the globe itself is by cosmographers divided into east and west, accounting from the first meridian, it doth not establish this conceit. For that division is not naturally founded, but artificially set down, and by agreement, as the aptest terms to define or commensurate the longitude of places. Thus the ancient cosmographers do place the division of the east and western hemisphere, that is, the first term of longitude, in the Canary or Fortunate Islands; conceiving these parts the extremest habitations westward. But the moderns have altered that term, and translated it unto the Azores or islands of St. Michael, and that upon a plausible conceit of the small or insensible variation of the compass in those parts. Wherein nevertheless, and though upon a second invention, they proceed upon a common and no appropriate foundation; for even in that meridian farther north or south the compass observably varieth;[2] and there are also other places wherein it varieth not, as Alphonso and Rodoriges de Lago will have it about Capo de las Agullas, in Africa; as Maurolycus affirmeth in the shore of Peloponnesus, in Europe; and as Gilbertus averreth, in the midst of great regions, in most parts of the earth.

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[2] *varieth.*] Mr. Gunter, about 35 yeares agoe, observd the variation of the compass at Redriff not to bee greate by an excellent needle of 8 inches lengthe; yet now at this day the variation in the very same place is about halfe a pointe different, as some artizans confidently avouch upon experience; and our best mathematicians aver that there is a variation of the former variations dayly; whereof the cause may bee in the several loadstones brought from several places. For the mines of iron, whence they are taken, not running all exactly north and southe, may imprinte a different force, and verticity in the needles toucht by them, according to the difference of their own situation. Soe that the variation is

CHAPTER VIII.

Of the River Nilus.

Hereof uncontrollably and under general consent many opinions are passant, which notwithstanding, upon due examination, do admit of doubt or restriction. It is generally esteemed, and by most unto our days received, that the river of Nilus hath seven ostiaries, that is, by seven channels disburdened itself into the sea. Wherein, notwithstanding, beside that we find no concurrent determination of ages past, and a positive and undeniable refute of these present, the affirmative is mutable, and must not be received without all limitation.

For some, from whom we receive the greatest illustrations of antiquity, have made no mention hereof. So Homer hath given no number of its channels, nor so much as the name thereof in use with all historians. Eratosthenes in his description of Egypt hath likewise passed them over. Aristotle is so indistinct in their names and numbers, that in the first of *Meteors* he plainly affirmeth, the region of Egypt (which we esteem the ancientest nation of the world) was a mere gained ground, and that by the settling of mud and limous matter brought down by the river Nilus, that which was at first a continued sea,[3] was raised at last into a firm and habitable country. The like opinion he held of Mæotis Palus,

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not, or can bee in respect of the pole, but of the needles. It would be therefore exactly inquired by several large stones old and new, whether the verticity of them severally be alwayes the same in the same place or noe.—*Wr.*

[3] *sea.*] Moore.

that by the floods of Tanais and earth brought down thereby, it grew observably shallower in his days, and would in process of time become a firm land. And though[4] his conjecture be not as yet fulfilled, yet is the like observable in the river Gihon,[5] a branch of Euphrates and river of Paradise, which having in former ages discharged itself into the Persian Sea, doth at present fall short, being lost in the lakes of Chaldea, and hath left between them and the sea a large and considerable part of dry land.

Others expressly treating hereof, have diversly delivered themselves. Herodotus in his Euterpe makes mention of seven, but carelessly of two hereof, that is, Bolbitinum and Bucolicum;[6] for these, saith he, were not the natural currents, but made by art for some occasional convenience. Strabo, in his geography, naming but two, Peleusiacum and Canopicum, plainly affirmeth there were more than seven; *Inter hæc alia quinque,* &c. There are, saith he, many remarkable towns within the currents of Nile, especially such which have given the names unto the ostiaries thereof, not unto all, for they are eleven,[7] and four besides, but unto seven and most considerable, that is, Canopicum, Bolbitinum, Selenneticum, Sebenneticum,[8] Pharniticum, Mendesium, Taniticum, and Pelusium, wherein to make up the number, one of the artificial channels of Herodotus is accounted. Ptolemy, an Egyptian, and born at the Pelusian mouth of Nile, in his geography maketh nine,[9] and in the third map of Africa, hath unto their mouths prefixed their several names, Heracleoticum, Bolbitinum, Sebenneticum, Pineptum, Diolcos, Pathmeticum, Mendesium, Taniticum, Peleusiacum, wherein notwithstanding there are no less than three different names from those delivered by Pliny. All which considered, we may easily discern that authors accord not either in name or number, and must needs confirm the judgment of Maginus, *de Ostiorum Nili numero et nominibus, valde antiqui scriptores discordant.*

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[4] *and though.*] Yet after Aristotel 740 yeares, about the yeare of Christ, 410, itt became soe fordable that the Huns and Vandals (observing a hinde to goe usually through itt to the pastures in Natolia) came in such swarms over the same way, that at last they overrann all Europe also.—*Wr.*

[5] *Gihon.*] The river which rann by Verulam was once navigable up to the wals thereof, as appears by story, and anchors digd up, but is now rich land, 20 miles lower.—*Wr.*

[6] *but carelessly, &c.*] Yet these are now the principal branches remaining.

[7] *eleven.*] Thirteen in all by Strabo, yet Honterus reckons 17.—*Wr.*

[8] *Sebenneticum.*] Is aunciently divided into Saiticum and Mendesium.—*Wr.*

[9] *nine.*] Of note, the rest smaller branches, and soe not considerable, and therefore omitted.—*Wr.*

Modern geographers[1] and travellers do much abate of this number, for as Maginus and others observe, there are now but three or four mouths thereof; as Gulielmus Tyrius long ago, and Bellonius since, both ocular enquirers, with others have attested. For below Cairo, the river divides itself into four branches, whereof two make the chief and navigable streams, the one running to Pelusium of the ancients, and now Damietta;[2] the other unto Canopium, and now Rosetta;[3] the other two, saith Mr. Sandys, do run between these, but poor in water. Of those seven mentioned by Herodotus, and those nine by Ptolemy, these are all I could either see or hear of. Which much confirmeth the testimony of the Bishop of Tyre, a diligent and ocular enquirer, who in his Holy War doth thus deliver himself: "We wonder much at the ancients, who assigned seven mouths unto Nilus, which we can no otherwise salve than that by process of time, the face of places is altered, and the river hath lost his channels, or that our forefathers did never obtain a true account thereof.[4]

And therefore, when it is said in Holy Scripture, "The Lord shall utterly destroy the tongue of the Egyptian sea, and with his mighty wind he shall shake his hand over the river, and shall smite it in the seven streams, and make men go over dry shod,"* if this expression concerneth the river Nilus, it must only respect the seven principal streams. But the place is very obscure, and whether thereby be not meant the river Euphrates, is not without some controversy; as is collectible from the subsequent words; "And there shall be

* Isa. ii, 15, 16.

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[1] *geographers.*] But Honterus, in his geographical map of Ægypt, sets downe 17, distinct in situation and name, and hee wrote not soe long agoe, that they should since bee varyed.—*Wr.*

[2] *now Damietta*] This is the Bucolic of Herodotus.

[3] *now Rosetta.*] The Bolbitine branch of Herodotus.

[4] *Which much confirmeth, &c.*] This sentence and the following paragraph were first added in the 2nd edition.

an high way for the remnant of his people, that shall be left from Assyria;" and also from the bare name river, emphatically signifying Euphrates, and thereby the division of the Assyrian empire into many fractions, which might facilitate their return; as Grotius * hath observed, and is more plainly made out, if the † Apocrypha of Esdras, and that of the ‡ Apocalypse have any relation hereto.[5]

Lastly, whatever was or is their number, the contrivers of cards and maps afford us no assurance or constant description therein. For whereas Ptolemy hath set forth nine, Hondius in his map of Africa, makes but eight, and in that of Europe ten; Ortelius, in the map of the Turkish empire, setteth down eight, in that of Egypt eleven, and Maginus, in his map of that country, hath observed the same number. And if we enquire farther, we shall find the same diversity and discord in divers others.

Thus may we perceive that this account was differently related by the ancients, that it is undeniably rejected by the moderns, and must be warily received by any. For if we receive them all into account, they were more than seven; if only the natural sluices they were fewer, and however we receive them, there is no agreeable and constant description thereof; and therefore how reasonable it is to draw continual and durable deductions from alterable and uncertain foundations; let them consider who make the gates of Thebes, and the mouths of this river a constant and continued periphrasis for this number,[6] and in their poetical expressions do give the river that epithet unto this number.

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* *Gr. Not. in Isaiam.* † 2 Esdr. xiii, 43, 47. ‡ Apoc. xvi, 12.

[5] *And therefore, &c.*] Bishop Lowth considers this passage as conveying an allusion to the passage of the Red Sea. But he cites a story told by "Herodotus, (i, 189) of his Cyrus, that may somewhat illustrate this passage; in which it is said that God would inflict a kind of punishment and judgment on the Euphrates, and render it formidable by dividing it into seven streams. Cyrus, being impeded in his march to Babylon by the Gyudes, a deep and rapid river, which falls into the Tygris, and having lost one of his sacred white horses that attempted to pass it, was so enraged against the river, that he threatened to reduce it, and make it so shallow that it should be easily fordable, even by women, who should not be up to their knees in passing it. Accordingly he set his whole army to work, and cutting 360 trenches from both sides of the river, turned the waters into them, and drained them off."

[6] *number.*] Why should wee call the ancients to accompt for that which, tho' then true, is now altered after 2000 yeares. Let us rather hence collect the mutability of all things under the moone.—*Wr.*

In the first edition the following words are added to this paragraph, but have

The same river is also accounted the greatest of the earth, called therefore *Fluviorum pater*, and *totius Orbis maximus*, by Ortelius. If this be true, many maps must be corrected, or the relations of divers good authors renounced.

For first, in the delineations of many maps of Africa, the river Niger exceedeth it about ten degrees in length, that is, no less than six hundred miles. For arising beyond the equator it maketh northward almost 15 degrees, and deflecting after westward, without meanders, continueth a straight course about 40 degrees, and at length with many great currents disburdeneth itself into the occidental ocean. Again, if we credit the descriptions of good authors, other rivers excel it in length, or breadth, or both. Arrianus, in his history of Alexander, assigneth the first place unto the river Ganges; which truly according unto later relations, if not in length, yet in breadth and depth, may be granted to excel it. For the magnitude of Nilus consisteth in the dimension of longitude, and is inconsiderable in the other; what stream it maintaineth beyond Syene or Esna, and so forward unto its original, relations are very imperfect; but below these places, and further removed from the head, the current is but narrow; and we read, in the history of the Turks, the Tartar horsemen of Selimus swam over the Nile from Cairo to meet the forces of Tonumbeus. Baptista Scortia,* expressly treating hereof, preferreth the river of Plate in America, for that, as Maffeus hath delivered, falleth into the ocean in the latitude of forty leagues, and with that force and plenty, that men at sea do taste fresh water before they approach so near as to discover the land. So is it exceeded by that which by Cardan is termed the greatest in the world, that is the river Oregliana in the same continent; which, as Maginus delivereth, hath been navigated 6000 miles, and opens in a channels of ninety leagues broad, so that, as Acosta, an ocular witness, recordeth, they that sail in the middle can make no land on either side.[7]

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* *De naturâ et incremento Nili.*

been omitted in all the subsequent editions:—"conceiving a perpetuity in mutability upon unstable foundations erecting eternal assertions."

[7] *side.*] Oregliana river is 6000 miles longe, 270 miles broad at the mouth.—*Wr.*

Now the ground of this assertion was surely the magnifying esteem of the ancients, arising from the indiscovery of its head.[8] For as things unknown seem greater than they are, and are usually received with amplifications above their nature; so might it also be with this river, whose head being unknown and drawn to a proverbial obscurity, the opinion thereof became without bounds, and men must needs conceit a large extent of that to which the discovery of no man had set a period. And this is an usual way, to give the superlative[9] unto things of eminency in any kind, and when a thing is very great, presently to define it to be the greatest of all. Whereas indeed superlatives are difficult; whereof there being but one in every kind, their determinations are dangerous, and must not be made without great circumspection. So the city of Rome is magnified by the Latins to be the greatest of the earth; but time and geography inform us that Cairo is bigger, and Quinsay, in China, far exceedeth both. So is Olympus extolled by the Greeks, as an hill attaining unto heaven, but the enlarged geography of after times make slight account hereof, when they discourse of Andes in Peru, or Teneriffe in the Canaries.[1] And we understand, by a person who hath lately had a fair opportunity to behold the magnified mount Olmypus, that it is exceeded by some peaks of the Alps. So have all ages conceived, and most are still ready to swear, the wren is the last of birds; yet the discoveries of America, and even of our own plantations have shewed us one far less, that is, the humbird, not much exceeding a beetle. And truly,

[8] *head.*] Maximus Tyrius, tutor to Aurel. Antonin. emperor, taxeth the vaine solicitude of Alexander to discover the head of the Nile, and enquired rather *si a Deo bona omnia, unde mala fluunt, &c.* —*Wr.*

[9] *superlative.*] A Noble Lord was wont to say the best trowts are in as many places of England, as afford any trowtes, for every place magnifies theire owne. Hence Tullye wittily drew an argument from the mouths of all the philosophers against themselves, that the secte of the Academicks (whereof he was one) was the best. For, saythe hee, aske the Stoickes which is the best, and he will say the Stoick. But then aske which is the best, hee will say the Academick. Soe aske of the Peripatetick, the Cynicke, the Pythagorian, the Platonick, and the Pyrronian or sceptick, which of all is the best, each of these will magnifie and advance his owne as the prime, but next his owne the Academicke. Therefore hee concludes, and that most invinciblye, that which by the confession of all interests in severall is the second, is in every truthe the firste: for what each speakes of his owne is partiall, but whatt all confesse to be the second best after their owne, is by all confession the very prime of all.—*Wr.*

[1] *Canaries.*] Pico, in the Azores, 3 miles highe like a sugar loafe.—*Wr.*

for the least and greatest, the highest and the lowest of every kind, as it is very difficult to define them in visible things, so is it to understand in things invisible. Thus is it no easy lesson to comprehend the first matter, and the affections of that which is next neighbour unto nothing, but impossible truly to comprehend God, who indeed is all in all. For things, as they arise into perfection, and approach unto God, or descend to imperfection, and draw nearer unto nothing, fall both imperfectly into our apprehensions, the one being too weak for our conceptions, our conceptions too weak for the other.

Thirdly, divers conceptions there are concerning its increment or inundation. The first unwarily opinions, that this increase or annual overflowing is proper unto Nile, and not agreeable unto any other river, which notwithstanding is common unto many currents of Africa. For about the same time the river Niger and Zaire do overflow, and so do the rivers beyond the mountains of the moon, as Suama and Spirito Santo. And not only these in Africa, but some also in Europe and Asia;[2] for so is it reported of Menan in India, and so doth Botero report of Duina in Livonia, and the same is also observable in the river Jordan, in Judea, for so is it delivered that "Jordan overfloweth all his banks in the time of harvest." *[3]

The effect indeed is wonderful in all, and the causes surely best resolvable from observations made in the countries themselves, the parts through which they pass, or whence

* Josh. iii.

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[2] *some in Europe and Asia.*] And in America, where *the Rio de la Plata* is flooded at certain periods, and like the Nile inundates and fertilizes the country. The Indians then leave their huts, and betake themselves to their canoes, in which they float about, until the waters have retired. In the month of April, in 1793, it happened that a current of wind, of an extraordinary nature and violence, heaped up the immense mass of water of this river to a distance of ten leagues, so that the whole country was submersed, and the bed of the river remained dry in such a manner, that it might be walked over with dry feet. The vessels which had foundered and sunk, were all exposed again, and there was found, among others, an English vessel, which had perished in 1762. Many people descended into this bed, visited and spoiled the vessels thus laid dry, and returned with their pockets filled with silver and other precious articles, which had been buried more than thirty years in the deep. This phenomenon, which may be regarded as one of the greatest convulsions of nature, lasted three days, at the expiration of which the wind abated, and the waters returned with fury into their natural bed.—*Bulletin Universel.*

[3] *harvest.*] Maio ineunte.

they take their original. That of Nilus hath been attempted by many, and by some to that despair of resolution, that they have only referred it unto the providence of God, and his secret manuduction of all things unto their ends. But divers have attained the truth, and the cause alleged by Diodorus, Seneca, Strabo, and others, is allowable; that the inundation of Nilus in Egypt proceeded from the rains in Ethiopia, and the mighty source of waters falling towards the fountains thereof. For this inundation unto the Egyptians happeneth when it is winter unto the Ethiopians, which habitations, although they have no cold winter, the sun being no further removed from them in Cancer than unto us in Taurus, yet is the fervour of the air so well remitted, as it admits a sufficient generation of vapours, and plenty of showers ensuing thereupon.[4] This theory of the ancients is since confirmed by experience of the moderns; by Franciscus Alvarez, who lived long in those parts, and left a description of Ethiopia, affirming that from the middle of June unto September, there fell in this time continual rains. As also Antonius Ferdinandus who in an epistle written from thence, and noted by Codignus, affirmeth that during the winter, in those countries, there passed no day without rain.

Now this is also usual, to translate a remarkable quality into a propriety, and where we admire an effect in one, to opinion there is not the like in any other. With these conceits do common apprehensions entertain the antidotal and wondrous condition of Ireland, conceiving only in that land an immunity from venomous creatures;[5] but unto him that shall further enquire, the same will be affirmed of Creta, memorable in ancient stories, even unto fabulous causes, and benediction from the birth of Jupiter. The same is also found in Ebusus or Evisa, an island near Majorca upon the coast of Spain. With these apprehensions do the eyes of neighbour spectators behold Etna, the flaming mountain in Sicilia; but navigators tell us there is a burning mountain[6] in Iceland, a more remarkable one in Teneriffe of the Canaries, and many volcanoes or fiery hills elsewhere. Thus crocodiles were thought to be peculiar unto Nile, and the opinion so possessed Alexander, that when he had discovered some in Ganges, he fell upon a conceit he had found the head of Nilus; but later discoveries affirm they are not only in Asia and Africa, but very frequent in some rivers of America.

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[4] *thereupon.*] This observation is worthye of notinge, yf you understand itt of that Æthiopia, which borders on the springs of Nilus, supposed generally to flow out of the mountains of the moon, that is, 15 degrees beyond the æquinoctiall. Whereas Prester John's courte, of residence wherein Alvarez lived, is 12 degrees on this side the line, i. e. 27 degrees, *or* 1020 miles at least. And this rayne, which fell in his courte from June to September overthrows the former instance of the winter raines at the mountains of the moon, although that bee the only *and* the true cause *of the rising of* Nilus.—*Wr.*

[5] *Ireland.*] See note at p. 240.

Another opinion[7] confineth its inundation, and positively affirmeth, it constantly increaseth the seventeenth day of June; wherein perhaps a larger form of speech were safer, than that which punctually prefixeth a constant day thereto. For this expression is different from that of the ancients, as Herodotus, Diodorus, Seneca, &c. delivering only that it happeneth about the entrance of the sun into Cancer; wherein they warily deliver themselves, and reserve a reasonable latitude.[8] So, when Hippocrates saith, *Sub Cane et ante Canem difficiles sunt purgationes,* there is a latitude of days comprised therein; for under the dog-star he containeth not only the day of his ascent, but many following, and some ten days preceeding. So Aristotle delivers the affections of animals, with the very terms of *circa, et magna ex parte;* and, when Theodorus translateth that part of his "*coeunt thunni et scombri mense Februario post Idus, pariunt Junio ante Nonas,*" Scaliger for "*ante Nonas*" renders it "*Junii initio,*" because that exposition affordeth the latitude of divers days. For affirming it happeneth before the Nones, he alloweth but one day, that is, the Calends; for in the Roman account, the second day is the fourth of the Nones of June.[9]

Again, were the day definitive, it had prevented the delusion of the devil, nor could he have gained applause by its prediction; who notwithstanding, (as Athanasius in the life of Anthony relateth,) to magnify his knowledge in things to come, when he perceived the rains to fall in Ethiopia, would presage unto the Egyptians the day of its inundation. And this would also make useless that natural experiment observed in earth or sand about the river; by the weight whereof (as good authors report) they have unto this day a knowledge of its increase.[1]

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[6] *burning mountain.*] Called Hecla.

[7] *Another.*] Lord Bacon, *Natural History, Experiment* 743.

[8] *latitude.*] This is all one with the former, for in their times the ⊙ then entered ♋ or rather soner soe that this *about* hath a large latitude: for at the sumer solstice, or his coming to Cancer, hee does little varye his declination for almost a month's space.—*Wr.*

[9] *June.*] Reckoning the nones as they doe the calends *a retro.*—*Wr.*

Lastly, it is not reasonable from variable and unstable causes to derive a fixed and constant effect, and such are the causes of this inundation, which cannot indeed be regular, and therefore their effects not prognosticable, like eclipses. For, depending upon the clouds and descent of showers in Ethiopia, which have their generation from vaporous exhalations, they must submit their existence unto contingencies, and endure anticipation and recession from the moveable condition of their causes. And therefore some years there hath been no increase at all, as some conceive in the years of famine under Pharaoh; as Seneca and divers relate of the eleventh year of Cleopatra; nor nine years together, as is testified by Calisthenes. Some years it hath also retarded, and come far later than usually it was expected, as according to Sozomen and Nicephorus it happened in the days of Theodosius; whereat the people were ready to mutiny, because they might not sacrifice unto the river, according to the custom of their predecessors.

Now this is also an usual way of mistake, and many are deceived who too strictly construe the temporal considerations of things. The books will tell us, and we are made to believe, that the fourteenth year males are seminifical and pubescent;

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[1] *increase.*] They have now a more certain way, for all the ancients agree that Nilus begins to flow about the beginning of July, (the sonn going out of Cancer into Leo) and about the end of September returnes within his bankes againe. From the first rise to his wonted level are commonly 100 days: the just hight is 16 cubits. In 12 cubits they are sure of a famine, in 13 of scarcitye and dearthe, 14 cubits makes them merye, 15, secure, and 16, triumphe, beyonde this (which is rare) they looke sad agen, not for feare of want, but least the slow fall of the waters should defer the seed-time to longe; which usually begins in 9ber, and the harvest is in Maye. But of this you may read at large in Plinye's *Natural Historye*, lib. v, cap. 9, and lib. xviii, cap. 18. But most excellently in Seneca's iv, lib. of natural quæstions, which is worthe the reading. Itt seems that in the 7 yeares of famine wherof Joseph (instructed by God) prophesyed, there had noe rain faln in Æthiopia, and that therefore Nilus had not overflowed.—*Wr.*

but he that shall enquire into the generality, will rather adhere unto the cautelous assertion of Aristotle, that is, *bis septem annis exactis*, and then but *magna ex parte*. That whelps are blind nine days, and then begin to see, is generally believed; but as we have elsewhere[2] declared, it is exceeding rare, nor do their eyelids usually open until the twelfth, and sometimes not before the fourteenth day. And to speak strictly, an hazardable determination it is, unto fluctuating and indifferent effects to affix a positive type or period. For in effects of far more regular causalities, difficulties do often arise, and even in time itself, which measureth all things, we use allowance in its commensuration. Thus while we conceive we have the account of a year in 365 days, exact enquirers and computists will tell us, that we escape six hours,[3] that is a quarter of a day. And so in a day, which every one accounts twenty-four hours, or one revolution of the sun; in strict account we must allow the addition of such a part as the sun doth make in his proper motion, from west to east, whereby in one day he describeth not a perfect circle.

Fourthly, it is affirmed by many, and received by most, that it never raineth in Egypt, the river supplying that defect, and bountifully requiting it in its inundation: but this must also be received in a qualified sense, that is, that it rains but seldom at any time in the summer, and very rarely in the winter. But that great showers do sometimes fall upon that region, beside the assertion of many writers, we can confirm from honourable and ocular testimony,* and that not many years past it rained in grand Cairo divers days together.

The same is also attested concerning other parts of Egypt, by Prosper Alpinus, who lived long in that country, and hath left an accurate treatise of the medical practice thereof. *Cayri rarò decidunt pluviæ; Alexandriæ, Pelusiique et in*

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* Sir William Paston, Baronet.

[2] *elsewhere.*] Vol. ii, p. 523.

[3] *escape 6 houres.*] *Lege* overreckon every common yeare 10′ 44″ according to Alphonsus, and every 4th yeare, 42′ 56″. But Tycho by long and exact observation sayes the retrocession made by this overreckoninge is now but 41′, precisely: so that in 300 yeares to come the retrocession of the æquinoxes in the Julian kalendar (for in heaven they are fixed) cannot bee above one day: soe that the kalendar reformed would remaine to all times.—*Wr.*

omnibus locis mari adjacentibus, pluit largissime et sæpe; that is, it raineth seldom at Cairo, but at Alexandria, Damietta, and places near the sea, it raineth plentifully and often. Whereto we might add the latter testimony of learned Mr. Greaves, in his accurate description of the Pyramids.[4]

Beside, men hereby forget the relation of Holy Scripture. "Behold I will cause it to rain a very great hail,[5] such as hath not been in Egypt since the foundation thereof, even until now."* Wherein God threatening such a rain as had not happened, it must be presumed they had been acquainted with some before, and were not ignorant of the substance, the menace being made in the circumstance. The same concerning hail is inferrible from Prosper Alpinus, *Rarissimè nix, grando,* it seldom snoweth or haileth: whereby we must concede that snow and hail do sometimes fall, because they happen seldom.[6]

Now this mistake ariseth from a misapplication of the bounds or limits of time, and an undue transition from one unto another; which to avoid, we must observe the punctual differences of time, and so distinguish thereof, as not to confound or lose the one in the other. For things may come to pass, *semper, plerumque, sæpe; aut nunquam, aliquando, raro;* that is always, or never, for the most part, or sometimes, oft-times, or seldom. Now the deception is usual which is made by the mis-application of these; men presently concluding that to happen often, which happeneth but sometimes: that never, which happeneth but seldom; and that always, which happeneth for the most part. So is it said, the sun shines every day in Rhodes, because for the most part it faileth not. So we say and believe that a chameleon never eateth, but liveth only upon air; whereas indeed it is seen to eat very seldom, but many there are who have beheld it to feed on flies. And so it is said, that children born in the eighth month live not, that is, for the most part, but not to be concluded always: nor it seems in former ages in all places, for it is otherwise recorded by Aristotle concerning the births of Egypt.

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* Exod. ix.

[4] *The same is also, &c.*] First added in 2nd edition.

[5] *rain—hail.*] Haile is raine as itt fals first out of the clowde, but freeses as itt fals, and turnes into haile-stones, yf the lower ayre bee colder then that from whence it fals.—*Wr.*

[6] *The same concerning hail, &c.*] First added in 2nd edition.

Lastly, it is commonly conceived that divers princes have attempted to cut the isthmus or tract of land which parteth the Arabian and Mediterranean Seas. But upon enquiry I find some difficulty concerning the place attempted; many with good authority affirming, that the intent was not immediately to unite these seas, but to make a navigable channel between the Red Sea and the Nile, the marks whereof are extant to this day. It was first attempted by Sesostris, after by Darius, and in a fear to drown the country, deserted by them both, but was long after re-attempted and in some manner effected by Philadelphus. And so the Grand Signior, who is lord of the country, conveyeth his gallies into the Red Sea by the Nile; for he bringeth them down to Grand Cairo, where they are taken in pieces, carried upon camels' backs, and rejoined together at Suez, his port and naval station for the sea; whereby in effect he acts the design of Cleopatra, who after the battle of Actium in a different way would have conveyed her gallies into the Red Sea.

And therefore that proverb to cut an isthmus, that is, to take great pains, and effect nothing, alludeth not unto this attempt, but is by Erasmus applied unto several other; as that undertaking of the Cnidians to cut their isthmus, but especially that of Corinth so unsuccessfully attempted by many Emperors. The Cnidians were deterred by the peremptory dissuasion of Apollo, plainly commanding them to desist, for if God had thought it fit, he would have made that country an island at first. But this perhaps will not be thought a reasonable discouragement unto the activity of those spirits which endeavour to advantage nature by art, and upon good grounds to promote any part of the universe; nor will the ill success of some be made a sufficient determent unto others, who know that many learned men affirm, that islands were not from the beginning, that many have been

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[*] Isa. xi, 15.

made since by art, that some isthmuses have been eat through by the sea, and others cut by the spade. And if policy would permit, that of Panama, in America, were most worthy the attempt, it being but few miles over, and would open a shorter cut unto the East Indies and China.[5]

CHAPTER IX.

Of the Red Sea.

CONTRARY apprehensions are made of the Erythræan or Red Sea, most apprehending a material redness therein, from whence they derive its common denomination; and some so lightly conceiving hereof, as if it had no redness at all, are fain to recur unto other originals of its appellation. Wherein to deliver a distinct account, we first observe that without consideration of colour it is named the Arabian Gulph. The Hebrews, who had best reason to remember it, do call it Zuph, or the weedy sea,[6] because it was full of sedge, or

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[5] *China.*] Betweene Panama and the Nombre de Dios, which lyes on bothe sides that strip of lande, the Spaniards accompte about 40 miles at most; but the Spaniard enjoying both those havens, and consequentlye having the free trade of both seas without corrivalitye of other nations, (which yf that passage were open would not longe bee his alone,) will never endure such an attempt, and for that cause hath fortified bothe those havens soe stronglye that hee may enjoye this proprietye without controule. But itt withall supposes that to cutt through the ridge of mountainss which lies betweene those 2 havens is impossible, and would prove more unfecible then that of Ægypt, which yf itt might be compassed would be of more advantage to these 3 parts of the world than that of Panama, and nearer by 1000 leagues to us, the remotest kingdome trading to the East Indyes. —*Wr.*

This long projected intercourse with the East Indias seems—under the present enterprizing Pasha of Egypt, to be in a fair way of accomplishment. Letters thither having been actually sent off by the Mediterranean mail in the spring of 1835. The Pasha has sent to M. Brunel requesting his assistance in carrying on the great work of improvement in the channel of the Nile; and one of our British engineers, Mr. Galloway, who has the conduct of a railway constructing between Cairo and Suez, has been created a Bey of Egypt.

[6] *the weedy sea.*] Bruce however says that he never saw a weed in it: and attributes this name to the plants of coral with which it abounds.

"Heb. xi, 29, commonly called the Red Sea. But this is a vulgar error, and the appellation rather arose from its proper name *Mare Erythræum*, which (the commentators say) was derived from king they found it so in their passage. The Mahometans, who are now lords thereof, do know it by no other name than the Gulph of Mecca, a city of Arabia.

The stream of antiquity deriveth its name from King Erythrus, so slightly conceiving of the nominal deduction from redness, that they plainly deny there is any such accident in it. The words of Curtius are plainly beyond evasion, *Ab Erythro rege inditum est nomen, propter quod ignari rubere aquas credunt.* Of no more obscurity are the words of Philostratus, and of later times, Sabellicus; *Stultè persuasum est vulgo rubras alicubi esse maris aquas, quin ab Erythro rege nomen pelago inditum.* Of this opinion was Andreas Corsalius, Pliny, Solinus, Dio Cassius, who although they denied not all redness, yet did they rely upon the original from King Erythrus.

Others have fallen upon the like, or perhaps the same conceit under another appellation, deducing its name not from King Erythrus, but Esau or Edom, whose habitation was upon the coasts thereof.* Now Edom is as much as Erythrus, and the Red Sea no more than the Idumean, from whence the posterity of Edom removing towards the Mediterranean coast, according to their former nomination by the Greeks, were called Phœnicians or red men, and from a plantation and colony of theirs, an island near Spain was by the Greek describers termed Erythra, as is declared by Strabo and Solinus.

Very many, omitting the nominal derivation, do rest in the gross and literal conception thereof, apprehending a real redness and constant colour of parts. Of which opinion are also they which hold, the sea receiveth a red and minious tincture from springs, wells, and currents that fall into it; and of the same belief are probably many Christians, who conceiving the passage of the Israelites through the sea to have been the type of baptism, according to that of the apostle, "All were baptised unto Moses in the cloud, and in the sea,"* for the better resemblance of the blood of Christ, they willingly received it in the apprehension of redness, and a colour agreeable unto its mystery; according unto that of Austin,† *Significat marê illud rubrum baptismum Christi, unde nobis baptismus Christi, nisi sanguine Christi consecratus?*

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* More exactly hereof Bochartus and Mr. Dickinson.

Erythrus, undoubtedly the same with Esau and Edom, who was a *red* man—so Grotius and others. It is called by Moses, at Exod. xv, 22, ים סוף, the weedy sea, and such the accounts of modern tourists, as Niebuhr and others (see Huruen), testify it to be. But whether these weeds give a colour to it, so as to originate the name Red Sea, is, I think, very doubtful."—*Bloomfield Recensio Synoptica, in loc.*

But divers moderns not considering these conceptions, and appealing unto the testimony of sense, have at last determined the point, concluding a redness herein, but not in the sense received. Sir Walter Raleigh, from his own and Portugal observations, doth place the redness of the sea in the reflection from red islands, and the redness of the earth at the bottom, wherein coral grows very plentifully, and from whence in great abundance it is transported into Europe. The observations of Alberquerque, and Stephanus de Gama, (as, from Johannes de Bairros, Fernandius de Cordova relateth) derive this redness from the colour of the sand and argillous earth at the bottom, for being a shallow sea, while it rolleth to and fro, there appeareth redness upon the water, which is most discernible in sunny and windy weather. But that this is no more than a seeming redness, he confirmeth by an experiment; for in the reddest part taking up a vessel of water, it differed not from the complexion of other seas. Nor is this colour discoverable in every place of that sea, for as he also observed, in some places it is very green, in others white and yellow, according to the colour of the earth or sand at the bottom. And so may Philostratus be made out, when he saith, this sea is blue; or Bellonius denying this redness, because he beheld not that colour about Suez; or when Corsalius at the mouth thereof could not discover the same.

Now although we have enquired the ground of redness in this sea, yet are we not fully satisfied. For (what is forgot by many, and known by few) there is another Red Sea, whose name we pretend not to make out from these principles, that is, the Persian Gulph or Bay, which divideth the Arabian and Persian shore, as Pliny hath described it, *Mare rubrum in duos dividitur sinus, is qui ab Oriente est, Persicus appellatur;* or as Solinus expresseth it, *Qui ab Oriente est, Percicus appellatur, ex adverso unde Arabia est, Arabicus;* whereto assenteth Suidas, Ortelius, and many more. And therefore there is no absurdity in Strabo, when he delivereth that Tigris and Euphrates do fall into the Red Sea, and Fernandius de Cordova justly defendeth his countryman Seneca in that expression:

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* 1 Cor. x, 2.

† *Aug. in Johannem.*

> Et qui renatum prorsus excipiens diem
> Tepidum Rubenti Tigrin immiscet freto.

Nor hath only the Persian Sea received the same name with the Arabian, but what is strange and much confounds the distinction, the name thereof is also derived from King Erythrus, who was conceived to be buried in an island of this sea, as Dionysius, Afer, Curtius, and Suidas do deliver. Which were of no less probability than the other, if (as with the same authors Strabo affirmeth), he was buried near Caramania, bordering upon the Persian Gulph. And if his tomb was seen by Nearchus, it was not so likely to be in the Arabian Gulph; for we read that from the river Indus he came unto Alexander, at Babylon, some few days before his death. Now Babylon was seated upon the river Euphrates, which runs into the Persian Gulph; and therefore however the Latin expresseth it in Strabo, that Nearchus suffered much in the Arabian Sinus, yet is the original κόλπος πέρσικος, that is, the Gulph of Persia.

That therefore the Red Sea, or Arabian Gulph, received its name from personal derivation, though probable is but uncertain; that both the seas of one name should have one common denominator, less probable; that there is a gross and material redness in either, not to be affirmed; that there is an emphatical or appearing redness in one, not well to be denied. And this is sufficient to make good the allegory of the Christians, and in this distinction may we justify the name of the Black Sea, given unto Pontus Euxinus, the name of Xanthus, or the yellow river of Phrygia, and the name of Mar Vermeio, or the Red Sea in America.

CHAPTER X.

Of the Blackness of Negroes.

It it evident, not only in the general frame of nature, that things most manifest unto sense, have proved obscure unto the understanding; but even in proper and appropriate objects, wherein we affirm the sense cannot err, the faculties of reason most often fail us. Thus of colours in general, under whose gloss and varnish all things are seen, few or none have yet beheld the true nature, or positively set down their incontrollable causes. Which while some ascribe unto the mixture of the elements, others to the graduality of opacity and light, they have left our endeavours to grope them out by twilight, and by darkness almost to discover that whose existence is evidenced by light. The chemists have laudably reduced their causes unto sal, sulphur, and mercury, and had they made it out so well in this, as in the objects of smell and taste, their endeavours had been more acceptable: for whereas they refer sapor unto salt, and odor unto sulphur, they vary much concerning colour; some reducing it unto mercury; some to sulphur; others unto salt. Wherein indeed the last conceit doth not oppress the former; and though sulphur seem to carry the master-stroke, yet salt may have a strong co-operation. For beside the fixed and terrestrious salt, there is in natural bodies a sal nitre referring unto sulphur; there is also a volatile or armoniack salt retaining unto mercury; by which salts the colours of bodies are sensibly qualified, and receive degrees of lustre or obscurity, superficiality or profundity, fixation or volatility.

Their general or first natures being thus obscure, there will be greater difficulties in their particular discoveries; for being farther removed from their simplicities, they fall into more complexed considerations; and so require a subtiler act of reason to distinguish and call forth their natures. Thus although a man understood the general nature of colours, yet were it no easy problem to resolve, why grass is green? Why garlic, molyes and porrets have white roots, deep green leaves, and black seeds? Why several docks and sorts of rhubarb with yellow roots, send forth purple flowers? Why also from lactory or milky plants, which have a white and lacteous juice dispersed through every part, there arise flowers blue and yellow? moreover, beside the special and first digressions ordained from the creation, which might be urged to salve the variety in every species, why shall the marvel of Peru produce its flowers of different colours, and that not once, or constantly, but every day, and variously? Why tulips of one colour produce some of another, and running through almost all, should still escape a blue?[7] And lastly, why some men, yea and they a mighty and considerable part of mankind, should first acquire and still retain the gloss and tincture of blackness? Which whoever strictly enquires, shall find no less of darkness in the cause, than in the effect itself; there arising unto examination no such satisfactory and unquarrellable reasons, as may confirm the causes generally received, which are but two in number;—the heat and scorch of the sun, or the curse of God on Cham and his posterity.

The first was generally received by the ancients, who in obscurities had no higher recourse than unto nature; as may appear by a discourse concerning this point in Strabo: by Aristotle it seem to be implied, in those problems which enquire, why the sun makes men black, and not the fire? why it whitens wax, yet blacks the skin? by the word Ethiops itself, applied to the memorablest nations of negroes, that is, of a burnt and torrid countenance. The fancy of the fable infers also the antiquity of the opinion; which deriveth the complexion from the deviation of the sun: and the conflagration of all things under Phaeton. But this opinion though generally embraced, was I perceive rejected by Aristobulus a very ancient geographer, as is discovered by Strabo. It hath been doubted by several modern writers, particularly by Ortelius; but amply and satisfactorily discussed as we know by no man. We shall therefore endeavour a full delivery hereof, declaring the grounds of doubt, and reasons of denial, which rightly understood, may, if not overthrow, yet shrewdly shake the security of this assertion.

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[7] *should still escape a blue.*] Dr. Shaw remarks, in his *Panorama of Nature*, p. 610, that shells are of almost all colours but blue. The reason seems to be the effects of salt water on that colour.—*Jeff.*

And first, many which countenance the opinion in this reason, do tacitly and upon consequence overthrow it in another. For whilst they make the river Senega to divide and bound the Moors, so that on the south side they are black, on the other only tawny, they imply a secret causality herein from the air, place or river; and seem not to derive it from the sun, the effects of whose activity are not precipitously abrupted, but gradually proceed to their cessations.

Secondly, if we affirm that this effect proceeded, or as we will not be backward to concede, it may be advanced and fomented from the fervour of the sun; yet do we not hereby discover a principle sufficient to decide the question concerning other animals; nor doth he that affirmeth that heat makes man black, afford a reason why other animals in the same habitations maintain a constant and agreeable hue unto those in other parts, as lions, elephants, camels, swans, tigers, ostriches, which, though in Ethiopia, in the disadvantage of two summers, and perpendicular rays of the sun, do yet make good the complexion of their species, and hold a colourable correspondence unto those in milder regions. Now did this complexion proceed from heat in man, the same would be communicated unto other animals, which equally participate the influence of the common agent. For thus it is in the effects of cold, in regions far removed from the sun; for therein men are not only of fair complexions, gray-eyed, and of light hair; but many creatures exposed to the air, deflect in extremity from their natural colours; from brown, russet and black, receiving the complexion of winter, and turning perfect white. Thus Olaus Magnus relates, that after the autumnal equinox, foxes begin to grow white; thus Michovius reporteth, and we want not ocular confirmation, that hares and partridges turn white in the winter; and thus a white crow, a proverbial rarity with us, is none unto them; but that inseparable accident of Porphyry is separated in many hundreds.

Thirdly, if the fervour of the sun, or intemperate heat of clime did solely occasion this complexion, surely a migration or change thereof might cause a sensible, if not a total mutation; which notwithstanding experience will not admit. For Negroes transplanted, although into cold and phlegmatick habitations, continue their hue both in themselves, and also their generations, except they mix with different complexions; whereby notwithstanding there only succeeds a remission of their tinctures, there remaining unto many descents a strong shadow of originals, and if they preserve their copulations entire, they still maintain their complexions. As is very remarkable in the dominions of the Grand Signior, and most observable in the Moors in Brasilia, which, transplanted about an hundred years past, continue the tinctures of their fathers unto this day. And so likewise fair or white people translated into hotter countries receive not impressions amounting to this complexion, as hath been observed in many Europeans who have lived in the land of Negroes: and as Edvardus Lopez testifieth of the Spanish plantations, that they retained their native complexions unto his days.

Fourthly, if the fervour of the sun were the sole cause hereof in Ethiopia or any land of Negroes, it were also reasonable that inhabitants of the same latitude, subjected unto the same vicinity of the sun, the same diurnal arch, and direction of its rays, should also partake of the same hue and complexion, which notwithstanding they do not. For the inhabitants of the same latitude in Asia are of a different complexion, as are the inhabitants of Cambogia and Java; insomuch that some conceive the Negro is properly a native of Africa, and that those places in Asia, inhabited now by Moors, are but the intrusions of Negroes, arriving first from Africa, as we generally conceive of Madagascar, and the adjoining islands, who retain the same complexion unto this day. But this defect is more remarkable in America; which although subjected unto both the tropicks, yet are not the inhabitants black between, or near, or under either: neither to the southward in Brasilia, Chili, or Peru; nor yet to the northward in Hispaniola, Castilia, del Oro, or Nicaragua. And although in many parts thereof there be at present swarms of Negroes serving under the Spaniard, yet were they all transported from Africa, since the discovery of Columbus; and are not indigenous or proper natives of America.

Fifthly, we cannot conclude this complexion in nations from the vicinity or habitude they hold unto the sun; for even in Africa they be Negroes under the southern tropick, but are not all of this hue either under or near the northern. So the people of Gualata, Agades, Garamantes, and of Goaga, all within the northern tropicks, are not Negroes; but on the other side Capo Negro, Cefala, and Madagascar, they are of a jetty black.

Now if to salve this anomaly we say, the heat of the sun is more powerful in the southern tropick, because in the sign of Capricorn falls out the perigeum or lowest place of the sun in his eccentric, whereby he becomes nearer unto them than unto the other in Cancer, we shall not absolve the doubt. And if any insist upon such niceties, and will presume a different effect of the sun, from such a difference of place or vicinity: we shall balance the same with the concernment of its motion, and time of revolution, and say he is more powerful in the northern hemisphere, and in the apogeum: for therein his motion is slower, and so is his heat respectively unto those habitations, as of more duration, so also of more effect. For though he absolve his revolution in 365 days, odd hours and minutes, yet by reason of eccentricity, his motion is unequal, and his course far longer in the northern semicircle, than in the southern; for the latter he passeth in 178 days, but the other takes him 187, that is, nine days more. So is his presence more continued unto the northern inhabitants; and the longest day in Cancer, is longer unto us than that in Capricorn unto the southern habitator. Beside, hereby we only infer an inequality of heat in different tropicks, but not an equality of effects in other parts subjected to the same. For in the same degree, and as near the earth he makes his revolution unto the American, whose inhabitants, notwithstanding, partake not of the same effect. And if herein we seek a relief from the dog-star, we shall introduce an effect proper unto a few, from a cause common unto many: for upon the same grounds that star should have as forcible a power upon America and Asia; and although it be not vertical unto any part of Asia, but only passeth by Beach, in *Terra Incognita;* yet is it so unto America, and vertically passeth over the habitations of Peru and Brasilia.

Sixthly, and which is very considerable, there are Negroes in Africa beyond the southern tropick, and some so far removed from it, as geographically the clime is not intemperate, that is, near the Cape of Good Hope, in 36 of the southern latitude. Whereas in the same elevation northward, the inhabitants of America are fair; and they of Europe in Candy, Sicily, and some other parts of Spain, deserve not properly so low a name as tawny.

Lastly, whereas the Africans are conceived to be more peculiarly scorched and torrified from the sun, by addition of dryness from the soil, from want and defect of water, it will not excuse the doubt. For the parts which the Negroes possess, are not so void of rivers and moisture, as is presumed; for on the other side the mountains of the moon, in that great tract called Zanzibar, there are the mighty rivers of Suama, and Spirito Santo; on this side, the great river Zaire, the mighty Nile and Niger; which do not only moisten and contemperate the air by their exhalations, but refresh and humectate the earth by their annual inundations. Beside in that part of Africa, which with all disadvantage is most dry, (that is, in situation between the tropicks, defect of rivers and inundations, as also abundance of sands,) the people are not esteemed Negroes; and that is Libya, which with the Greeks carries the name of all Africa. A region so desert, dry and sandy, that travellers (as Leo reports) are fain to carry water on their camels; whereof they find not a drop sometime in six or seven days. Yet is this country accounted by geographers no part of *Terra Nigritarum,* and Ptolemy placeth therein the *Leuco-Æthiopes,* or pale and tawny Moors.

Now the ground of this opinion might be the visible quality of blackness observably produced by heat, fire and smoke; but especially with the ancients the violent esteem they held of the heat of the sun, in the hot or torrid zone;

conceiving that part unhabitable, and therefore, that people in the vicinities, or frontier thereof, could not escape without this change of their complexions. But how far they were mistaken in this apprehension, modern geography hath discovered: and as we have declared, there are many within this zone whose complexions descend not so low as unto blackness. And if we should strictly insist hereon, the possibility might fall into question; that is, whether the heat of the sun, whose fervour may swart a living part, and even black a dead or dissolving flesh, can yet in animals, whose parts are successive and in continual flux, produce this deep and perfect gloss of blackness.

Thus having evinced, at least made dubious, the sun is not the author of this blackness, how, and when this tincture first began is yet a riddle, and positively to determine it surpasseth my presumption. Seeing therefore we cannot discover what *did* effect it, it may afford some piece of satisfaction to know what *might* procure it. It may be therefore considered, whether the inward use of certain waters or fountains of peculiar operations, might not at first produce the effect in question. For of the like we have records in Aristotle, Strabo, and Pliny, who hath made a collection hereof, as of two fountains in Bœotia, the one making sheep white, the other black; of the water of Siberis which made oxen black, and the like effect it had also upon men, dying not only the skin, but making their hairs black and curled. This was the conceit of Aristobulus; who received so little satisfaction from the other, (or that it might be caused by heat, or any kind of fire,) that he conceived it as reasonable to impute the effect unto water.

Secondly, it may be perpended whether it might not fall out the same way that Jacob's cattle became speckled, spotted and ring-straked, that is, by the power and efficacy of imagination; which produceth effects in the conception correspondent unto the fancy of the agents in generation, and sometimes assimilates the idea of the generator into a reality in the thing engendered. For, hereof there pass for current many indisputed examples; so in Hippocrates we read of one, that from an intent view of a picture conceived a Negro;

and in the history of Heliodore,[*] of a Moorish queen, who upon aspection of the picture of Andromeda, conceived and brought forth a fair one. And thus perhaps might some say was the beginning of this complexion, induced first by imagination, which having once impregnated the seed, found afterward concurrent co-operations, which were continued by climes, whose constitution advantaged the first impression. Thus Plotinus conceiveth white peacocks first came in. Thus many opinion that from aspection of the snow, which lieth along in nothern regions, and high mountains, hawks, kites, bears, and other creatures become white; and by this way Austin conceiveth the devil provided, they never wanted a white-spotted ox in Egypt; for such an one they worshipped, and called Apis.

Thirdly, it is not indisputable whether it might not proceed from such a cause and the like foundation of tincture, as doth the black jaundice, which meeting with congenerous causes might settle durable inquinations, and advance their generations unto that hue, which were naturally before but a degree or two below it. And this transmission we shall the easier admit in colour, if we remember the like hath been effected in organical parts and figures; the symmetry whereof being casually or purposely perverted, their morbosities have vigorously descended to their posterities, and that in durable deformities. This was the beginning of Macrocephali, or people with long heads, whereof Hippocrates[*] hath clearly delivered himself: *Cùm primum editus est Infans, caput ejus tenellum manibus effingunt, et in longitudine adolescere cogunt; hoc institutum primum hujusmodi, naturæ dedit vitium, successu verò temporis in naturam abiit, ut proinde instituto nihil amplius opus esset; semen enim genitale ex omnibus corporis partibus provenit, ex sanis quidem sanum, ex morbosis morbosum. Si igitur ex calvis calvi, ex cæsiis cæsii, et ex distortis, ut plurimum, distorti gignuntur, eademque in cæteris formis valet ratio; quid prohibet cur non ex macrocephalis macrocephali gignantur?* Thus as

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[*] Vide *plura apud Tho. Fienum, de viribus imaginationis.*

[†] *De Aere, Aquis, et Locis.*

Aristotle observeth, the deers of Arginusa had their ears divided; occasioned at first by slitting the ears of deer. Thus have the Chinese little feet, most Negroes great lips and flat noses; and thus many Spaniards, and Mediterranean inhabitants, which are of the race of Barbary Moors (although after frequent commixture), have not worn out the Camoys* nose unto this day.

Artificial Negroes, or Gypsies, acquire their complexion by anointing their bodies with bacon and fat substances, and so exposing them to the sun. In Guinea Moors and others, it hath been observed, that they frequently moisten their skins with fat and oily materials, to temper the irksome dryness thereof from the parching rays of the sun. Whether this practice at first had not some efficacy toward this complexion, may also be considered.[8]

Lastly, if we still be urged to particularities, and such as declare how, and when the seed of Adam did first receive this tincture; we may say that men became black in the same manner that some foxes, squirrels, lions, first turned of this complexion, whereof there are a constant sort in divers countries; that some choughs came to have red legs and bills; that crows became pied.[9] All which mutations, however they began, depend on durable foundations; and such as may continue for ever. And if as yet we must farther define the cause and manner of this mutation, we must confess, in matters of antiquity, and such as are decided by history, if their originals and first beginnings escape a due relation, they fall into great obscurities, and such as future ages seldom reduce unto a resolution. Thus if you deduct the administration of angels, and that they dispersed the creatures into all parts after the flood, as they had congregated them into Noah's ark before, it will be no easy question to resolve, how several sorts of animals were first

* Flat Nose.

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[8] *Artificial Negroes, &c.*] First added in the 3rd edition.

[9] *some choughs, &c.*] This, however, is not a parallel case to the *varieties* existing among different individuals of the same *species*. The chough and the pied crow, are distinct species.—The former *(corvus gracula)*, has *always* red legs and bills; the latter *(corvus caryocatactes)* is *always* pied.

dispersed into islands, and almost how any into America. How the venereal contagion began in that part of the earth, since history is silent, is not easily resolved by philosophy. For whereas it is imputed unto anthropophagy, or the eating man's flesh, that cause hath been common unto many other countries, and there have been cannibals or men-eaters in the three other parts of the world, if we credit the relations of Ptolemy, Strabo and Pliny. And thus if the favourable pen of Moses had not revealed the confusion of tongues, and positively declared their division at Babel; our disputes concerning their beginning had been without end,[1] and I fear we must have left the hopes of that decision unto Elias.*

And if any will yet insist, and urge the question farther still upon me, I shall be enforced unto divers of the like nature, wherein perhaps I shall receive no greater satisfaction. I shall demand how the camels of Bactria came to have two bunches on their backs, whereas the camels of Arabia in all relations have but one? How oxen in some countries began and continue gibbous or bunch-backed? What way those many different shapes, colours, hairs, and natures of dogs

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* *Elias cum venerit, solvet dubium.*

[1] *had not revealed the confusion, &c.*] The question which forms the subject of this and the two following chapters, appears to me to be very much of the same class as those adverted to in the present passage: questions utterly incapable of solution, in the absence of positive information. We know the proximate cause of the different complexions existing among the blacker and tawny varieties of the human race, to be the different hues of the colouring matter contained in the *rete mucosum;* but as to the originating cause, we can scarcely arrive at even a probable conjecture. There have existed various opinions as to the original complexion of mankind. Not only have the Negroes deemed themselves the "fairer," describing the devil and all terrible objects as being white;—but they have contended that our first progenitor was, like themselves, black. Job Ben Solomon, an African prince, when in England, was in company with Dr. Watts. The Dr. enquiring of him why he and his countrymen were black, since Adam was white? Job answered, "How you know Adam white? We think Adam black; and we ask how you came to be white? A question which it is not probable the Dr. was able to answer." *Mo. Rev.* vol. xxxviii, p. 541. Mr. Payne Knight, in his work *On Taste,* p. 15, is of the same opinión, that Adam in Paradise was an *African Black!!*— Dr. Pritchard has also endeavoured to shew that all men were originally Negroes. Blumenbach on the other hand supposes the original to have been Caucasian. The influence of climate has been the most generally assigned cause of the blackness of Negroes,—by some of the greatest naturalists both in ancient and modern times; for example by Pliny, Buffon, Smith, and Blumenbach. But it is a theory which surely a careful investigation of facts will be sufficient to overthrow. In addition to our author's observations to this effect, see those of the English editors of *Cuvier's Animal Kingdom,* vol. i, p. 174.

Nor is the difficulty as to the originatcame in?[2] How they of some countries became depilous, and without any hair at all, whereas some sorts in excess abound therewith? How the Indian hare came to have a long tail, whereas that part in others attains no higher than a scut? How the hogs of Illyria, which Aristotle speaks of, became solipedes or whole-hoofed, whereas in other parts[3]

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ing cause of the varieties in the human race confined to the mere question of complexion. It extends to the variations in hair and beard—to the configuration of the head—to the character and expression of countenance—the stature and symmetry of the body—and to the still more important—differences in moral and intellectual character. But of what use is it to exercise ingenuity as to the reasons of these particular variations? We see that the most astonishing variety pervades and adorns the whole range of creation. Let us be content to resolve it into the highest cause to which we can ascend, the will of that Being who has thus surrounded himself with the glory of his own works.

I subjoin some remarks by Mr. Brayley, bearing on a part of the subject.

In an elaborate paper by Dr. Stark, on the influence of colour on heat and odours, published in the *Phil. Trans.* for 1833, are contained some observations and experiments which tend to throw considerable light upon this subject. Dr. Franklin, it is stated by the author of the paper, from the result of his experiments with coloured cloths on the absorption of heat, drew the conclusion, "that black clothes are not so fit to wear in a hot sunny climate or season as white ones, because in such clothes the body is more heated by the sun, when we walk abroad and are at the same time heated by the exercise; which double heat is apt to bring on putrid, dangerous fevers;" that soldiers and seamen in tropical climates should have a white uniform; that white hats should be generally worn in summer; and that garden walls for fruit trees would absorb more heat from being blackened.

"Count Rumford and Sir Evrd. Home, on the contrary," Dr. Stark continued, "come to a conclusion entirely the reverse of this. The count asserts, that if he were called upon to live in a very warm climate, he would blacken his skin or wear a black shirt; and Sir Everard, from direct experiments on himself and on a Negro's skin, lays it down as evident, 'that the power of the sun's rays to scorch the skins of animals is destroyed when applied to a dark surface, although the absolute heat, in consequence of the absorption of the rays, is greater.'—Sir Humphry Davy explains this fact by saying, 'that the radiant heat in the sun's rays is converted into sensible heat.' With all deference to the opinion of this great man, it by no means explains why the surface of the skin was kept comparatively cool. From the result of the experiments detailed, (in Dr. Stark's paper) it is evident, that if a black surface absorbs caloric in greatest quantity, it also gives it out in the same proportions and thus a circulation of heat is as it were established, calculated to promote the insensible perspiration, and to keep the body cool. This view is confirmed by the observed fact of the stronger odour exhaled by the bodies of black people."—*Br.*

[2] *what way those many, &c.*] Rev. Mr. White, in his delightful *Natural History of Selborne*, describes a very curious breed of *edible* dogs from China—"such as are fattened in that country for the purpose of being eaten: they are about the size of a moderate spaniel; of a pale yellow colour, with coarse bristling hair on their backs, sharp upright ears, and peaked heads, which give them a very fox-like appearance. They bark much in a short, thick manner, like foxes; and have a surly savage demeanour, like their ancestors, which are not domesticated, but bred up in sties, where they are fed for the table with rice-meal and other farinaceous food." On the subject of canine varieties Sir W. Jardine in a note refers to "some very interesting observations, in the fifth number of the *Journal of Agriculture*, by Mr. J. Wilson."

[3] *in other parts.*] Not in all, for about Aug. 1625, at a farm 4 miles from Winchester, I beheld with wonder a great

they are bisulcous, and described cloven-hoofed, by God himself? All which, with many others, must needs seem strange unto those that hold there were but two of the unclean sort in the ark; and are forced to reduce these varieties to unknown originals.

However therefore this complexion was first acquired, it is evidently maintained by generation, and by the tincture of the skin as a spermatical part traduced from father unto son; so that they which are strangers contract it not, and the natives which transmigrate, amit it not without commixture, and that after divers generations. And this affection, (if the story were true) might wonderfully be confirmed, by what Maginus and others relate of the emperor of Ethiopia, or Prester John, who, derived from Solomon, is not yet descended into the hue of his country, but remains a Mulatto, that is, of a mongrel complexion unto this day. Now although we conceive this blackness to be seminal, yet are we not of Herodotus' conceit, that their seed is black. An opinion long ago rejected by Aristotle, and since by sense and enquiry. His assertion against the historian was probable, that all seed was white; that is, without great controversy in viviparous animals, and such as have testicles, or preparing vessels, wherein it receives a manifest dealbation. And not only in them, but (for ought I know) in fishes, not abating the seed of plants; whereof at least in most, though the skin and covering be black, yet is the seed and fructifying part not so: as may be observed in the seeds of onions, piony, and basil. Most controvertible it seems in the spawn of frogs and lobsters, whereof notwithstanding at the very first the spawn is white, contracting by degrees a blackness, answerable in the one unto the colour of the shell, in the other unto the porwigle or tadpole; that is, that animal which first proceedeth from it. And thus may it also be in the gener tion and sperm of Negroes; that being first and in its naturals white, but upon separation of parts, accidents before invisible be-

heard of swine, whole footed, and taller then any other that ever I sawe.—*Wr.*

In several of the examples in this paragraph, the same error has been committed, as in that of the "chough" and "pied crow," just before; viz. the confounding of species with varieties.

come apparent; there arising a shadow or dark efflorescence in the out-side, whereby not only their legitimate and timely births, but their abortions are also dusky, before they have felt the scorch and fervor of the sun.

CHAPTER XI.

Of the same.

A second opinion[4] there is, that this complexion was first a curse of God derived unto them from Cham, upon whom it was inflicted for discovering the nakedness of Noah. Which notwithstanding is sooner affirmed than proved, and carried with it sundry improbabilities. For first, if we derive the curse on Cham, or in general upon his posterity, we shall denigrate a greater part of the earth than was ever so conceived, and not only paint the Ethiopians and reputed sons of Cush, but the people also of Egypt, Arabia, Assyria, and Chaldea, for by this race were these countries also peopled. And if concordantly unto Berosus, the fragment of Cato *de Originibus*, some things of Halicarnasseus, Macrobius, and out of them Leandro and Annius, we shall conceive of the travels of Camese or Cham, we may introduce a generation of Negroes as high as Italy, which part was never culpable of deformity, but hath produced the magnified examples of beauty.

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[4] *A second opinion.*] Possevine, in his 2 tom. and 252 page, does much applaud himself as the first inventor of this conceite. But Scaliger, in his 244 exercitation, sifting that quere of Cardan, why those that inhabite the hither side of the river Senega, in Affrick, are dwarfish and ash colour; those on the other side are tall and Negroes; rejects all arguments drawn from naturall reasons of the soile, &c. and concludes that the Asanegi on this side the river formerly inhabited on both sides of it, but were driven out of their countrye into this side of the river by the black Moores, drawne thither by the richnes of the soile on the further side. And doubtles considering that the maritime Moors of Barbarye, who lye 900 miles on this side the tropicke, are blacker then those of the posteritye of Chus, in Arabia, which lyes under the tropick; wee must needs conclude that this is but a poore conceyte, not unlike many other roving phancyes wherein the Jesuit is wont to vaunt himselfe.—*Wr.*

Secondly, the curse mentioned in Scripture was not denounced upon Cham, but Canaan, his youngest son, and the reasons thereof are divers. The first from the Jewish tradition, whereby it is conceived that Canaan made the discovery of the nakedness of Noah, and notified it unto Cham. Secondly, to have cursed Cham, had been to curse all his posterity, whereof but one was guilty of the fact. And lastly, he spared Cham, because he had blessed him before. Now if we confine this curse unto Canaan, and think the same fulfilled in his posterity, then do we induce this complexion on the Sidonians, then was the promised land a tract of Negroes, for from Canaan were descended the Canaanites, Jebusites, Amorites, Girgashites, and Hivites, which were possessed of that land.

Thirdly, although we should place the original of this curse upon one of the sons of Cham, yet were it not known from which of them to derive it. For the particularity of their descents is imperfectly set down by accountants, nor is it distinctly determinable from whom thereof the Ethiopians are proceeded. For whereas these of Africa are generally esteemed to be the issue of Chus, the elder son of Cham, it is not so easily made out. For the land of Chus, which the Septuagint translates Ethiopia, makes no part of Africa, nor is it the habitation of blackamoors, but the country of Arabia, especially the *Happy* and *Stony* possessions and colonies of all the sons of Chus, excepting Nimrod and Havilah, possessed and planted wholly by the children of Chus, that is, by Sabtah and Ramah, Sabtacha, and the sons of Raamah, Dedan, and Sheba; according unto whose names the nations of those parts have received their denominations, as may be collected from Pliny and Ptolemy, and as we are informed by credible authors, they hold a fair analogy in their names even unto our days. So the wife of Moses translated in Scripture an Ethiopian, and so confirmed by the fabulous relation of Josephus, was none of the daughters of Africa, nor any Negro of Ethiopia, but the daughter of Jethro, Prince and Priest of Midian, which was a part of Arabia the *Stony*, bordering upon the Red Sea. So the Queen of Sheba came not unto Solomon out of Ethiopia, but from Arabia, and that part thereof which bore the name of the first planter, the son of Chus. So whether the eunuch, which°Philip the deacon baptised, were servant unto Candace, queen of the African Ethiopia, (although Damianus à Goes, Codignus, and the Ethiopic relations aver it,) is yet by many, and with strong suspicions, doubted. So that the' army of a million, which Zerah, King of Ethiopia, is said to bring against Asa, was drawn out of Arabia, and the plantations of Chus; not out of Ethiopia, and the remote habitations of the Moors. For it is said that Asa pursuing his victory took from him the city Gerar; now Gerar was no city in or near Ethiopia, but a place between Cadesh and Zur, where Abraham formerly sojourned. Since therefore these African Ethiopians are not convinced by the common acception to be the sons of Chus, whether they be not the posterity of Phut or Mizraim, or both, it is not assuredly determined. For Mizraim, he possessed Egypt, and the east parts of Africa. From Lubym, his son, came the Libyans, and perhaps from them the Ethiopians. Phut possessed Mauritania, and the western parts of Africa, and from these perhaps descended the Moors of the west, of Mandinga, Meleguette, and Guinea. But from Canaan, upon whom the curse was pronounced, none of these had their original; for he was restrained unto Canaan and Syria, although in after ages many colonies dispersed, and some thereof upon the coasts of Africa, and prepossessions of his elder brothers.

Fourthly, to take away all doubt or any probable divarication, the curse is plainly specified in the text, nor need we dispute it, like the mark of Cain; *Servus servorum erit fratribus suis,* "Cursed be Canaan, a servant of servants shall he be unto his brethren;" which was after fulfilled in the conquest of Canaan, subdued by the Israelites, the posterity of Sem. Which prophecy Abraham well understanding, took an oath of his servant not to take a wife for his son Isaac out of the daughters of the Canaanites, and the like was performed by Isaac in the behalf of his son Jacob. As for Cham and his other sons, this curse attained them not; for Nimrod, the son of Chus, set up his kingdom in Babylon, and erected the first great empire; Mizraim and his posterity grew mighty monarchs in Egypt; and the empire of the Ethiopians hath been as large as either. Nor did the curse descend in general upon the posterity of Canaan, for the Sidonians, Arkites, Hamathites, Sinites, Arvadites, and Zemerites seem exempted. But why there being eleven sons, five only were condemned, and six escaped the malediction, is a secret beyond discovery.[5]

Lastly, whereas men affirm this colour was a curse, I cannot make out the propriety of that name, it neither seeming so to them, nor reasonably unto us, for they take so much content therein, that they esteem deformity by other colours, describing the devil and terrible objects white; and if we seriously consult the definitions of beauty, and exactly perpend what wise men determine thereof, we shall not apprehend a curse, or any deformity therein. For first, some place the essence thereof in the proportion of parts, conceiving it to consist in a comely commensurability of the whole unto the parts, and the parts between themselves, which is the determination of the best and learned writers. Now hereby the Moors are not excluded from beauty, there being in this description no consideration of colours, but an apt connection and frame of parts and the whole. Others there be, and those most in number, which place it not only in proportion of parts, but also in grace of colour. But to make colour essential unto beauty, there will arise no slender difficulty. For Aristotle, in two definitions of pulchritude, and Galen in one, have made no mention of colour. Neither will it agree unto the beauty of animals, wherein notwithstanding there is an approved pulchritude. Thus horses are handsome under any colour, and the symmetry of parts obscures the consideration of complexions. Thus in concolour animals and such as are confined unto one colour, we measure not their beauty thereby; for if a crow or blackbird grow white, we generally account it more pretty; and in almost a monstrosity descend not to opinion of deformity. By this way likewise the Moors escape the curse of deformity, there concurring no stationary colour, and sometimes not any unto beauty.

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[5] *Nor did the curse, &c.*] First added in 2nd edition.

The Platonick contemplators reject both these descriptions founded upon parts and colours, or either, as M. Leo, the Jew, hath excellently discoursed in his *Genealogy of Love*, defining beauty a formal grace, which delights and moves them to love which comprehend it. This grace, say they, discoverable outwardly, is the resplendour and ray of some interior and invisible beauty, and proceedeth from the forms of compositions amiable. Whose faculties if they can aptly contrive their matter, they beget in the subject an agreeable and pleasing beauty; if over ruled thereby, they evidence not their perfections, but run into deformity. For seeing that out of the same materials, Thersites and Paris, monstrosity and beauty may be contrived, the forms and operative faculties introduce and determine their perfections. Which in natural bodies receive exactness in every kind, according to the first idea of the Creator, and in contrived bodies the fancy of the artificer, and by this consideration of beauty, the Moors also are not excluded, but hold a common share therein with all mankind.

Lastly, in whatsoever its theory consisteth, or if in the general we allow the common conceit of symmetry and of colour, yet to descend unto singularities, or determine in what symmetry or colour it consisted, were a slippery designation. For beauty is determined by opinion, and seems to have no essence that holds one notion with all; that seeming beauteous unto one, which hath no favour with another; and that unto every one, according as custom hath made it natural, or sympathy and conformity of minds shall make it seem agreeable. Thus flat noses seem comely unto the Moor, an aquiline or hawked one unto the Persian, a large and prominent nose unto the Roman; but none of all these are acceptable in our opinion. Thus some think it most ornamental to wear their bracelets on their wrists, others say it is better to have them about their ankles; some think it most comely to wear their rings and jewels in the ear, others will have them about their privities; a third will not think they are complete except they hang them in their lips, cheeks, or noses. Thus Homer to set off Minerva, calleth her γλαυκῶπις, that is, gray or light-blue eyed; now this unto us seems far less amiable than the black. Thus we that are of contrary complexions accuse the blackness of the Moors as ugly; but the spouse in the Canticles excuseth this conceit, in that description of hers, I am black, but comely. And howsoever Cerberus, and the furies of hell be described by the poets under this complexion, yet in the beauty of our Saviour, blackness is commended, when it is said, his locks are bushy and black as a raven. So that to infer this as a curse, or to reason it as a deformity, is no way reasonable; the two foundations of beauty, symmetry and complexion, receiving such various apprehensions, that no deviation will be expounded so high as a curse or undeniable deformity, without a manifest and confessed degree of monstrosity.

Lastly, it is a very injurious method unto philosophy, and a perpetual promotion of ignorance, in points of obscurity, nor open unto easy considerations, to fall upon a present refuge unto miracles; or recur unto immediate contrivance from the unsearchable hands of God. Thus, in the conceit of the evil odour of the Jews,[6] Christians, without a further research into the verity of the thing, or enquiry into the cause, draw up a judgment upon them from the passion of their Saviour. Thus in the wondrous effects of the clime of Ireland, and the freedom from all venomous creatures, the credulity of common conceit imputes this immunity unto the benediction of St. Patrick, as Beda and Gyraldus have left recorded. Thus the ass having a peculiar mark of a cross made by a black list down his back, and another athwart, or at right angles down his shoulders: common opinion ascribe this figure unto a peculiar signation, since that beast had the honour to bear our Saviour on his back. Certainly this is a course more desperate than antipathies, sympathies, or occult qualities; wherein by a final and satisfactive discernment of faith, we lay the last and particular effects upon the first and general cause of all things; whereas in the other, we do but palliate our determinations, until our advanced endeavours do totally reject, or partially salve their evasions.

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[6] *evil odour of the Jews.*] See more of this, p. 36, note 4.

CHAPTER XII.

A Digression concerning Blackness.

THERE being therefore two opinions repugnant unto each other, it may not be presumptive or sceptical to doubt of both. And because we remain imperfect in the general theory of colours, we shall deliver at present a short discovery of blackness; wherein although perhaps we afford no greater satisfaction than others, yet shall we empirically and sensibly discourse hereof; deducing the causes of blackness from such originals in nature, as we do generally observe things are denigrated by art. And herein I hope our progression will not be thought unreasonable; for, art being the imitation of nature, or nature at the second hand, it is but a sensible expression of effects dependent on the same, though more removed causes: and therefore the works of the one may serve to discover the other. And though colours of bodies may arise according to the receptions, refraction, or modification of light; yet are there certain materials which may dispose them unto such qualities.[7]

And first, things become, by a sooty and fuliginous matter proceeding from the sulphur of bodies, torrified; not taking *fuligo* strictly, but in opposition unto ἀτμὶς, that is any kind of vaporous or madefying excretion, and comprehending ἀναθυμίασις, that is, as Aristotle defines it, a separation of moist and dry parts made by the action of heat or fire, and colouring bodies objected. Hereof in his *Meteors*, from the qualities of the subject, he raiseth three kinds; the exhalations from ligneous and lean bodies, as bones, hair, and the like he called κάπνος, *fumus*; from fat bodies, and such as have not their fatness conspicuous or separated, he termeth λίγνυς, *fuligo*, as wax, resin, pitch, or turpentine; that from unctuous bodies, and such whose oiliness is evident, he named *κνίσσα* or *nidor.* Now every one of these do blacken bodies objected unto them, and are to be conceived in the sooty and fuliginous matter expressed.

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[7] *And though colours, &c.*] First added in the 6th edit.

I say, proceeding from the sulphur of bodies torrified, that is, the oil, fat, and unctuous parts, wherein consist the principles of flammability. Not pure and refined sulphur, as in the spirits of wine often rectified; but containing terrestrious parts, and carrying with it the volatile salt of the body, and such as is distinguishable by taste in soot: nor vulgar and usual sulphur, for that leaves none or very little blackness, except a metalline body receive the exhalation.

I say, torrified, singed, or suffering some impression from fire; thus are bodies casually or artificially denigrated, which in their naturals are of another complexion; thus are charcoals made black by an infection of their own *suffitus;* so is it true what is affirmed of combustible bodies, *adusta nigra, perusta alba;* black at first from the fuliginous tincture, which being exhaled they become white, as is perceptible in ashes. And so doth fire cleanse and purify bodies, because it consumes the sulphureous parts, which before did make them foul, and therefore refines those bodies which will never be mundified by water. Thus camphire, of a white substance, by its *fuligo* affordeth a deep black. So is pitch black, although it proceed from the same tree with resin, the one distilling forth, the other forced by fire. So of the *suffitus* of a torch, do painters make a velvet black; so is lamp-black made; so of burnt hart-horns a sable; so is bacon denigrated in chimnies; so in fevers and hot distempers from choler adust is caused a blackness in our tongues, teeth and excretions; so are *ustilago,* brant-corn and trees black by blasting; so parts cauterized, gangrenated, siderated and mortified, become black, the radical moisture, or vital sulphur suffering an extinction, and smothered in the part affected. So not only actual but potential fire—not burning fire, but also corroding water—will induce a blackness. So are chimnies and furnaces generally black, except they receive a clear and manifest sulphur; for the smoke of sulphur will not black a paper, and is commonly used by women to whiten tiffanies, which it performeth by an acid vitriolous, and penetrating spirit ascending from it, by reason whereof it is not apt to kindle any thing: nor will it easily light a candle, until that spirit be spent, and the flame approacheth the match. This is that acid and piercing spirit which with such activity and compunction invadeth the brains and nostrils of those that receive it. And thus when Bellonius affirmeth the charcoals made out of the wood of oxycedar are white, Dr. Jordan in his judicious discourse of mineral waters yieldeth the reason, because their vapors are rather sulphureous than of any other combustible substance. So we see that Tinby coals will not black linen hanged in the smoke, thereof, but rather whiten it by reason of the drying and penetrating quality of sulphur, which will make red roses white. And therefore to conceive a general blackness in hell, and yet therein the pure and refined flames of sulphur, is no philosophical conception, nor will it well consist with the real effects of its nature.

These are the advenient and artificial ways of denigration, answerably whereto may be the natural progress. These are the ways whereby culinary and common fires do operate, and correspondent hereunto may be the effects of fire elemental. So may bitumen, coals, jet, black-lead, and divers mineral earths become black; being either fuliginous concretions in the earth, or suffering a scorch from denigrating principles in their formation. So men and other animals receive different tinctures from constitution and complexional efflorescences, and descend still lower, as they partake of the fuliginous and denigrating humour. And so may the Ethiopians or Negroes become coal-black, from fuliginous efflorescences and complexional tinctures arising from such probabilities, as we have declared before.

The second way whereby bodies become black, is an atramentous condition or mixture, that is, a vitriolate or copperas[8] quality conjoining with a terrestrious and astringent humidity; for so is *atramentum scriptorium*, or writing ink commonly made by copperas cast upon a decoction or infusion of galls.

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[8] *copperas.*] Reade *copper-rust.*

I say a vitriolous or copperas quality; for vitriol is the active or chief ingredient in ink, and no other salt that I know will strike the colour with galls; neither alum, sal-gem, nitre, nor armoniack. Now artifical copperas, and such as we commonly use, is a rough and acrimonious kind of salt drawn out of ferreous and eruginous earths, partaking chiefly of iron and copper; the blue of copper, the green most of iron. Nor is it unusual to dissolve fragments of iron in the liquor thereof, for advantage in the concretion. I say, a terrestrious or astringent humidity; for without this there will ensue no tincture; for copperas in a decoction of lettuce or mallows affords no black, which with an astringent mixture it will do, though it be made up with oil, as in printing and painting ink.[9] But whereas in this composition we use only nut-galls, that is, an excrescence from the oak, therein we follow and beat upon the old receipt; for any plant of austere and stiptick parts will suffice, as I have experimented in *bistort, myrobalans, myrtus brabantica, balaustium* and red-roses. And indeed, most decoctions of astringent plants, of what colour soever, do leave in the liquor a deep and muscadine red: which by addition of vitriol descends into a black: and so Dioscorides in his receipt of ink, leaves out gall, and with copperas makes use of soot.[1]

Now if we enquire in what part of vitriol this atramental and denigrating condition lodgeth, it will seem especially to lie in the more fixed salt thereof. For the phlegm or aqueous evaporation will not denigrate; nor yet spirits of vitriol, which carry with them volatile and nimbler salt. For if upon a decoction of copperas and gall, be poured the spirits or oil of vitriol, the liquor will relinquish his blackness; the gall and parts of the copperas precipitate unto the bottom, and the ink grow clear again, which it will not so easily do in common ink, because that gum is dissolved therein, which hindereth the separation. But colcothar or vitriol burnt, though unto a redness, containing the fixed salt, will make good ink; and so will the lixivium, or lye made thereof with warm water; but the terra or insipid earth remaining, affords no black at all, but serves in many things for a gross and useful red. And though spirits of vitriol, projected upon a decoction of galls, will not raise a black, yet if these spirits be any way fixed, or return into vitriol again, the same will act their former parts, and denigrate as before. And if we yet make a more exact enquiry, by what this salt of vitriol more peculiarly gives this colour, we shall find it to be from a metalline condition, and especially an iron property or ferreous participation. For blue copperas[2] which deeply partakes of the copper will do it but weakly, verdigris which is made of copper will not do it at all. But the filings of iron infused in vinegar, will with a decoction of galls make good ink, without any copperas at all; and so will infusion of load-stone, which is of affinity with iron. And though more conspicuously in iron, yet such a calcanthous or atramentous quality we will not wholly reject in other metals; whereby we often observe black tinctures in their solutions. Thus a lemon, quince or sharp apple cut with a knife becomes immediately black. And from the like cause, artichokes. So sublimate beat up with whites of eggs, if touched with a knife, becomes incontinently black. So *aqua fortis*, whose ingredient is vitriol, will make white bodies black. So leather, dressed with the bark of oak, is easily made black by a bare solution of copperas. So divers mineral waters and such as participate of iron, upon an infusion of galls, become of a dark colour, and entering upon black. So steel infused, makes not only the liquor dusky, but, in bodies wherein it concurs with proportionable tinctures, makes also the excretions black. And so also from this vitriolous quality, *mercurius dulcis*, and vitriol vomitive, occasions black ejections. But whether this denigrating quality in copperas proceedeth from an iron participation, or rather in iron from a vitriolous communication; or whether black tinctures from metallical bodies be not from vitriolous parts contained in the sulphur, since common sulphur containeth also much vitriol, may admit consideration. However in this way of tincture, it seemeth plain, that iron and vitriol are the powerful denigrators.[3]

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[9] *as in printing, &c.*] There is noe copper-rust in printinge ink, which is made of lamp black and oyle.—*Wr.*

[1] *soot.*] But he meant torche or lamp soote.—*Wr.*

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[2] *copperas.*] Reade *copper-rust*, and soe itt is.—*Wr.*

[3] *But whether, &c.*] First added in 3rd edition.

Such a condition there is naturally in some living creatures. Thus that black humour by Aristotle named θολὸς, and commonly translated *atramentum,* may be occasioned in the cuttle-fish. Such condition there is naturally in some plants, as black-berries, walnut-rinds, black-cherries; whereby they extinguish inflammations, corroborate the stomach, and are esteemed specifical in the epilepsy. Such an atramentous condition there is to be found sometime in the blood, when that which some call *acetum, vitriolum,* concurs with parts prepared for this tincture. And so from these conditions the Moors might possibly become Negroes, receiving atramentous impressions in some of those ways, whose possibility is by us declared.

Nor is it strange that we affirm there are vitriolous parts, qualities, and even at some distance vitriol itself in living bodies; for there is a sour stiptick salt diffused through the earth, which passing a concoction in plants, becometh milder and more agreeable unto the sense; and this is that vegetable vitriol, whereby divers plants contain a grateful sharpness, as lemons, pomegranates, cherries, or an austere and inconcocted roughness, as sloes, medlars and quinces. And that not only vitriol is a cause of blackness, but the salts of natural bodies do carry a powerful stroke in the tincture and varnish of all things, we shall not deny, if we contradict not experience, and the visible art of dyers, who advance and graduate their colours with salts.[4] For the decoctions of simples which bear the visible colours of bodies decocted, are dead and evanid, without the commixtion of alum, argol and the like. And this is also apparent in chemical preparations. So cinnabar[5] becomes red by the acid exhalation of sulphur, which otherwise presents a pure and niveous white. So spirits of salt upon a blue paper make an orient red. So tartar,[6] or vitriol upon an infusion of violets affords a delightful crimson. Thus it is wonderful what variety of colours the spirits of saltpetre, and especially, if they be kept in a glass while they pierce the sides thereof; I say, what orient greens they will project. From the like spirits in the earth the plants thereof perhaps acquire their verdure. And from such solary* irradiations may those wondrous varieties arise, which are observable in animals, as mallard's heads, and peacock's feathers, receiving intention or alteration according as they are presented unto the light.

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[4] *salts.*] And allums, which are a kind of salte.—*Wr.*

[5] *cinnabar.*] See the oyle of tartar poured on the filing of Brasil wood make an excellent red inke.—*Wr.*

[6] *tartar.*] A drop of the oyle of sulphur turns conserve of red roses into a scarlat.—*Wr.*

Thus saltpetre, ammoniack and mineral spirits emit delectable and various colours; and common *aqua fortis* will in some green and narrow-mouthed glasses, about the verges thereof, send forth a deep and *gentianella* blue.

Thus have we at last drawn our conjectures unto a period; wherein if our contemplations afford no satisfaction unto others, I hope our attempts will bring no condemnation on ourselves: for (besides that adventures in knowledge are laudable, and the essays of weaker heads afford oftentimes improveable hints unto better,) although in this long journey we miss the intended end, yet are there many things of truth disclosed by the way; and the collateral verity may unto reasonable speculations somewhat requite the capital indiscovery.

CHAPTER XIII.[7]

Of Gypsies.

Great wonder it is not, we are to seek, in the original of Ethiopians, and natural Negroes, being also at a loss concerning the original of Gypsies[8] and counterfeit Moors, observable in many parts of Europe, Asia and Africa.

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* Whence the colours of plants, &c. may arise.

[7] Chap. xiii & xiv first appeared in 2nd edition.

[8] *concerning the original of Gypsies.*] This question, unlike the greater number of those which have occupied the attention of Sir Thomas, would seem less and less likely to be answered, as years roll on. While the progress of science and the discoveries which reward the patience and acuteness of modern investigation, are daily affording us satisfactory explanations of various phenomena in nature, the origin of Gypsies is a question which the lapse of time is daily removing fur-

Common opinion deriveth them from Egypt, and from thence they derive themselves, according to their own account hereof, as Munster discovered in the letters and pass which they obtained from Sigismund the emperor. That they first

ther from our reach. Little has therefore been done towards its solution, but to collect and compare former opinions and speculations. The criterion, which seems the most to be relied upon, is that of language. Sir Thomas gives us no authority for his assertion that the dialect of the Gypsies is Sclavonian: an assertion which inclines him to the opinion that they came originally from the north of Europe. A very different theory was suggested by Büttner, and advocated after great labor and research with every appearance of probability, by Grellman. He has given a comparative vocabulary shewing a striking affinity between the Gypsy and Hindoostanee languages. Capt. Richardson, in the *Asiatic Researches*, (vol. vii, p. 451) has carried the point still further, and established an affinity between them and a tribe in India, called the Bazeegurs. Professor Pallas and other writers have remarked this similarity of language. Dr. Pritchard is decidedly of opinion that their origin was Indian. Mr. Hoyland, of Sheffield, with the benevolent object of bettering their condition, took great pains some years ago to investigate their history, and especially their present state; and published a volume on this subject, entitled, "*A Historical Survey of the Customs, Habits, and Present State of the Gypsies*," 8vo. York, 1816.

Brand, (in his *Observations on Popular Antiquities*, vol. ii, 432,) speaks of the Gypsies as of Hindoo origin, probably of the lowest caste, called Pariars, or Suders; and says, they probably emigrated about 1408, in consequence of the conquests of Timur Beg. Park mentions a wandering tribe named *Libey*, whom he had seen in his travels in Africa, very similar in their habits and customs to the Gypsies. A different solution has been proposed by an anonymous writer in the *Gentleman's Magazine*, (vol. lxxii, 291,) who thinks it very probable that they are the fulfilment of the prophecy in Gen. xvi, respecting the descendants of Ishmael. He observes that they inhabited in the first place the wilderness of Paran; that they increased prodigiously, and, under the appellation of *Al Arab al mostá-reba*, or *insitious Arabs*, hived off from Arabia Deserta and Petræa, then too narrow to contain them, into the neighbouring country of Egypt. So that both the African and Asiatic shores of the Red Sea became inhabited by these nomadic Arabs. He therefore rather inclines to suppose the Gypsies, who made their appearance in Europe in the early part of the 15th century, to have been a migration of these Arabs, whose country had been the theatre of the ferocious contests between Tamerlane and Bajazet—than to have been Suders driven from India by Timur Beg. In corroboration of his theory he remarks, the greater propinquity of Arabia and Egypt to Europe. He concludes by noticing a subsequent migration led from Egypt, a century later, by Zinganeus—when that country was invaded by Solyman the Great.

The appellations *Egyptians* and *Zinganees* is readily accounted for on the supposition of this writer. We are not, after all, perhaps, precluded from availing ourselves, to a certain extent, of both theories.

An amusing account is given, in the *Gentleman's Magazine*, for Dec. 1801, of a Gypsy supper in the New Forest. Dr. Knox relates, in his last *Winter Evening*, the following incident, in proof of the piety of the Gypsies: "A large party had requested leave to rest their weary limbs, during the night, in the shelter of a barn; and the owner took the opportunity of listening to their conversation. He found their last employment at night, and their first in the morning, was prayer. And though they could teach their children nothing else, they taught them to supplicate, in an uncouth but pious language, the assistance of a friend, in a world where the distinctions of rank are little regarded. I have been credibly informed, that these poor neglected brethren are very devout, and remarkably disposed to attribute all events to the interposition of a particular Providence."

It may be doubted, perhaps, with too much probability, whether his benevolent inference in their favour would be borne out by more intimate acquaintance with their general character.

came out of lesser Egypt, that having defected from the Christian rule, and relapsed unto pagan rites, some of every family were enjoined this penance to wander about the world. Or, as Aventinus delivereth, they pretend for this vagabond course a judgment of God upon their forefathers, who refused to entertain the Virgin Mary and Jesus, when she fled into their country.

Which account notwithstanding is of little probability: for the general stream of writers, who enquire into their original, insist not upon this; and are so little satisfied in their descent from Egypt, that they deduce them from several other nations. Polydore Virgil accounting them originally Syrians; Philippus Bergomas fetcheth them from Chaldea; Eneas Sylvius from some part of Tartary; Bellonius no further than Wallachia and Bulgaria; nor Aventinus than the confines of Hungaria.*

That they are no Egyptians, Bellonius maketh evident:† who met great droves of Gypsies in Egypt, about Grand Cairo, Matærea, and the villages on the banks of Nilus, who notwithstanding were accounted strangers unto that nation, and wanderers from foreign parts, even as they are esteemed with us.

That they came not out of Egypt is also probable, because their first appearance was in Germany, since the year 1400; nor were they observed before in other parts of Europe, as is deducible from Munster, Genebrard, Crantsius and Ortilius.

But that they first set out not far from Germany, is also probable from their language, which was the Sclavonian tongue; and when they wandered afterward into France, they were commonly called Bohemians, which name is still retained for Gypsies. And therefore when Crantsius delivereth, they first appeared about the Baltick Sea, when Bellonius deriveth them from Bulgaria and Wallachia, and others from about Hungaria, they speak not repugnantly hereto: for the language of those nations was Sclavonian, at least some dialect thereof.

But of what nation soever they were at first, they are now almost of all: associating unto them some of every country where they wander. When they will be lost, or whether at all again, is not without some doubt; for unsettled nations have out-lasted others of fixed habitations. And though Gypsies have been banished by most Christian princes, yet have they found some countenance from the great Turk, who suffereth them to live and maintain publick stews near the imperial city in Pera, of whom he often maketh a politick advantage, employing them as spies into other nations, under which title they were banished by Charles the fifth.

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* *Feynand. de Cordua didascal. multipl.*

† *Observat. l. 2.*

CHAPTER XIV.

Of some others.

We commonly accuse the fancies of elder times in the improper figures of heaven assigned unto constellations, which do not seem to answer them, either in Greek or Barbarick spheres. Yet equal incongruities have been commonly committed by geographers and historians, in the figural resemblances of several regions on earth. While by Livy and Julius Rusticus the island of Britain is made to resemble a long dish or two-edged axe: Italy by Numatianus to be like an oak leaf, and Spain an oxhide; while the fancy of Strabo makes the habitated earth like a cloak; and Dionysius Afer will have it like a sling; with many others observable in good writers,* yet not made out from the letter or signification:—acquitting astronomy in the figures of the zodiack; wherein they are not justified unto strict resemblances, but rather made out from the effects of sun or moon in these several portions of heaven, or from peculiar influences of those constellations, which some way make good their names.

Which notwithstanding being now authentic by prescription, may be retained in their naked acceptions, and names translated from substances known on earth. And therefore the learned Hevelius, in his accurate *Selenography*, or description of the moon, hath well translated the known appellations of regions, seas and mountains, unto the parts of that luminary; and rather than use invented names or human denominations, with witty congruity hath placed Mount Sinai, Taurus, Mæotis Palus, the Mediterranean Sea, Mauritania, Sicily and Asia Minor in the moon.

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* *Tacit. de vita Jul. Agric. Junctin. in Sph. l. de Sacro bosco*, cap. 2.

More hardly can we find the Hebrew letters in the heavens made out of the greater and lesser stars, which put together do make up words, wherein cabalistical speculators conceive they read events of future things.* And how, from the stars in the head of Medusa, to make out the word Charab, and thereby desolation presignified unto Greece or Javan numerally characterized in that word, requireth no rigid reader.†

It is not easy to reconcile the different accounts of longitude, while in modern tables the hundred and eightieth degree is more than thirty degrees beyond that part, where Ptolemy placeth an 180. Nor will the wider and more western term of longitude, from whence the moderns begin their commensuration, sufficiently salve the difference.‡ The ancients began the measure of longitude from the Fortunate Islands or Canaries, the moderns from the Azores or islands of St. Michael; but since the Azores are but fifteen degrees more west, why the moderns should reckon 180, where Ptolemy accounteth above 220, or though they take in fifteen degrees at the west, why they should reckon thirty at the east, beyond the same measure, is yet to be determined, nor would it be much advantaged, if we should conceive that the compute of Ptolemy were not so agreeable unto the Canaries, as the Hesperides or islands of Capo Verde.§

Whether the compute of months from the first appearance of the moon, which divers nations have followed, be not a more perturbed way than that which accounts from the conjunction may seem of reasonable doubt;|| not only from the

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* The cabala of the stars.

† *Greffarel* out of *R. Chomer.*

‡ *Athan. Kircher. in proœmio.*

§ *Robertus Hues de globis.*

|| *Hevel. Selenog.* cap. 9.

uncertainty of its appearance in foul and cloudy weather, but unequal time in any, that is, sooner or later, according as the moon shall be in the signs of long descension, as Pisces, Aries, Taurus, in the perigeum or swiftest motion, and in the northern latitude; whereby sometimes it may be seen the very day of the change, as did observably happen, 1654, in the months of April and May. Or whether also the compute of the day be exactly made from the visible arising or setting of the sun, because the sun is sometimes naturally set, and under the horizon, when visibly it is above it; from the causes of refraction, and such as make us behold a piece of silver in a bason, when water is put upon it, which we could not discover before, as under the verge thereof.

Whether the globe of the earth be but a point in respect of the stars and firmament, or how if the rays thereof do fall upon a point, they are received in such variety of angles, appearing greater or lesser from differences of refraction?

Whether if the motion of the heavens should cease a while, all things would instantly perish; and whether this assertion doth not make the frame of sublunary things to hold too loose a dependency upon the first and conserving cause, at least impute too much unto the motion of the heavens, whose eminent activities are by heat, light, and influence, the motion itself being barren, or chiefly serving for the due application of celestial virtues unto sublunary bodies, as Cabeus hath learnedly observed.

Whether comets or blazing stars be generally of such terrible effects, as elder times have conceived them;[9] for since it is found that many, from whence these predictions are drawn, have been above the moon, why they may not be qualified from their positions, and aspects which they hold with stars of favourable natures, or why since they may be conceived to arise from the effluviums of other stars, they may not retain the benignity of their originals; or since the natures of the fixed stars are astrologically differenced by the planets, and are esteemed martial or jovial, according to the colours whereby they answer these planets, why, although the red comets do carry the portentions of Mars, the brightly white should not be of the influence of Jupiter or Venus, answerably unto Cor Scorpii and Arcturus, is not absurd to doubt.

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[9] *Whether comets, &c.*] Aristotle considered them to be accidental fires or meteors, kindled in the atmosphere. Kepler supposed them to be monsters, generated in celestial space!

Dr. Thomas Burnet says, that the comets seem to him to be nothing else but (as one may say) the dead bodies of the fixed stars unburied, and not as yet composed to rest; they, like shadows, wander up and down through the various regions of the heavens, till they have found out fit places for their residence, which having pitched upon, they stop their irregular course, and being turned into planets, move circularly about some star.—*Charles Blount's Miscellaneous Works*, p. 63.

Tycho Brahe first ascertained, by observations on the comet of 1577, that comets are permanent bodies, like the planets.

THE SEVENTH BOOK:

THE PARTICULAR PART CONCLUDED.

OF POPULAR AND RECEIVED TENETS, CHIEFLY HISTORICAL, AND SOME DEDUCED FROM THE HOLY SCRIPTURES.

CHAPTER I.

That the Forbidden Fruit was an Apple.

THAT the forbidden fruit of Paradise was an apple, is commonly believed, confirmed by tradition, perpetuated by writings, verses, pictures; and some have been so bad prosodians, as from thence to derive the Latin word *malum*, because that fruit was the first occasion of evil: wherein notwithstanding determinations are presumptuous, and many I perceive are of another belief. For some have conceived it a vine;[1] in the mystery of whose fruit lay the expiation of the transgression. Goropius Becanus, reviving the conceit of Barcephas, peremptorily concludeth it to be the Indian fig-tree, and by a witty allegory labours to confirm the same. Again, some fruits pass under the name of Adam's apples, which in common acception admit not that appellation: the one described by Matthiolus under the name of Pomum Adami, a very fair fruit, and not unlike a citron, but somewhat rougher, chopt and crannied, vulgarly conceived the marks of Adam's teeth; another, the fruit of that plant which Serapion termeth Musa, but the eastern Christians commonly, the apples of Paradise; not resembling an apple in figure, and in taste a melon or cucumber.[2] Which fruits although they have received appellations suitable unto the tradition, yet we cannot from thence infer they were this fruit in question. No more than *Arbor vitæ*, so commonly called, to obtain its name from the tree of life in Paradise, or *Arbor Judæ*, to be the same which supplied the gibbet unto Judas.

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[1] *a vine.*] By the fatal influence of whose fruit the nakedness both of Adam and of Noah were exposed. See the *Targum of Jonathan.—Jeff.*

Again, there is no determination in the text; wherein is only particularised, that it was the fruit of a tree good for food, and pleasant unto the eye, in which regards many excel the apple: and therefore learned men do wisely conceive it inexplicable; and Philo puts determination unto despair, when he affirmeth the same kind of fruit was never produced since. Surely were it not requisite to have been concealed, it had not passed unspecified; nor the tree revealed which concealed their nakedness, and that concealed which revealed it; for in the same chapter mention is made of fig-leaves. And the like particulars, although they seem uncircumstantial, are oft set down in Holy Scripture; so is it specified that Elias sat under a juniper tree, Absolom hanged by an oak, and Zaccheus got up into a sycamore.

And although, to condemn such indeterminables, unto him that demanded on what hand Venus was wounded, the philosopher thought it a sufficient resolution, to re-inquire upon what leg king Philip halted; and the Jews not undoubtedly resolved of the *sciatica* side of Jacob, do cautiously in their diet abstain from the sinews of both;[3] yet are there many nice particulars which may be authentically determined. That Peter cut off the right ear of Malchus, is beyond all doubt. That our Saviour eat the Passover in an upper room, we may determine from the text. And some we may concede which the Scripture plainly defines not. That the dial of Ahaz[4] was placed upon the west-side of the temple, we will not deny, or contradict the description of Adricomius; that Abraham's servant put his hand under his right thigh, we shall not question; and that the thief on the right hand was saved, and the other on the left reprobated, to make good the method of the last judicial dismission, we are ready to admit. But surely in vain we enquire of what wood was Moses' rod, or the tree that sweetened the waters. Or, though tradition or human history might afford some light, whether the crown of thorns was made of *paliurus;* whether the cross of Christ were made of those four woods in the distich of Durantes,* or only of oak, according unto Lipsius and Goropius, we labour not to determine. For though hereof prudent symbols and pious allegories be made by wiser conceivers; yet common heads will fly unto superstitious applications, and hardly avoid miraculous or magical expectations.

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[2] *again, &c.*] The fruit shops of London exhibit a large kind of citron labelled, *Forbidden Fruit*, respecting which, and the *Pomum Adami* of Matthiolus, I have the following obliging and satisfactory notice from my friend Professor Lindley:—"The forbidden fruit of the London markets is a variety of the *Citrus Decumana*, and is in fact a small sort of shaddock. But as to the *Pomum Adami*, no one can make out exactly what it was. The common Italian *Pomo d'Adamo* is a variety of *Citrus Limetta;* that of Paris is a thick-skinned orange; and at least three other things have been so called. I do not think it possible to ascertain what Matthiolus meant, beyond the fact that it was a *Citrus* of some kind."

[3] *of both.*] And this superstition befooles them alike in both.—*Wr.*

Now the ground or reason that occasioned this expression by an apple, might be the community of this fruit, and which is often taken for any other. So the goddess of gardens is termed Pomona; so the proverb expresseth it, to give apples unto Alcinous; so the fruit which Paris decided was called an apple; so in the garden of Hesperides (which many conceive a fiction drawn from Paradise) we read of golden apples guarded by the dragon. And to speak strictly in this appellation, they placed it more safely than any other; for, beside the great variety of apples, the word in Greek comprehendeth oranges,[5] lemons, citrons, quinces; and as

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* *Pes Cedrus est, truncus Cupressus, Oliva supremum, Palmque transversum Christi sunt in cruce lignum.*

[4] *dial of Ahaz.*] Suggestions have been made respecting this, as well as some other miracles, which seem to me to proceed too much on the principle of endeavouring to lessen them, so as to bring them within the compass of belief. Thus the *dial* only, not the sun, is supposed to have gone backwards; and that not *really*, but only *apparently*,—by a "miraculous refraction." Is it not better to take the *literal* meaning, content to believe that to omnipotence one miracle is no greater than another?

[5] *word in Greek.*] Not only in Greeke but in Latin also, all these are cald by the very name of apple trees as *Malus Aurantia, Citria, Cydonia, Granata.*—*Wr.*

Ruellius defineth,* such fruits as have no stone within, and a soft covering without; excepting the pomegranate; and will extend much further in the acception of Spigelius,† who comprehendeth all round fruits under the name of apples, not excluding nuts and plumbs.[6]

It hath been promoted in some constructions from a passage in the Canticles, as it runs in the vulgar translation, *Sub arbore malo suscitavi te, ibi corrupta est mater tua, ibi violata est genitrix tua.*‡ Which words notwithstanding parabolically intended, admit no literal inference, and are of little force in our translation, "I raised thee under an apple tree, there thy mother brought thee forth, there she brought thee forth that bare thee." So when, from a basket of summer fruits or apples, as the vulgar rendereth them, God by Amos foretold the destruction of his people, we cannot say they had any reference unto the fruit of Paradise, which was the destruction of man; but thereby was declared the propinquity of their desolation, and that their tranquillity was of no longer duration than those horary§ or soon decaying fruits of summer. Nor, when it is said in the same translation, *Poma desiderii animæ tuæ discesserunt à te,* "the apples that thy soul lusted after are departed from thee," is there any allusion therein unto the fruit of Paradise; but thereby is threatened unto Babylon, that the pleasures and delights of their palate should forsake them. And we read in Pierius, that an apple was the hieroglyphick of love, and that the statua of Venus was made with one in her hand. So the little cupids in the figures of Philostratus|| do play with apples in a garden; and there want not some who have symbolized the apple of Paradise unto such constructions.[7]

Since therefore after this fruit, curiosity fruitlessly enquireth, and confidence blindly determineth, we shall surcease our inquisition; rather troubled that it was tasted, than troubling ourselves in its decision; this only we observe, when things are left uncertain, men will assure them by determination. Which is not only verified concerning the fruit, but the serpent that persuaded; many defining the kind or species thereof. So Bonaventure and Comestor affirm it was a dragon, Engubinus a basilisk, Delrio a viper, and others a common snake.[8] Wherein men still continue the delusion of the serpent, who having deceived Eve in the main, sets her posterity on work to mistake in the circumstance, and endeavours to propagate errors at any hand. And those he surely most desireth which concern either God or himself; for they dishonour God, who is absolute truth and goodness; but for himself, who is extremely evil, and the worst we can conceive, by aberration of conceit they may extenuate his depravity, and ascribe some goodness unto him.

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* *Ruel. De Stirpium Natura.* † *Isagoge in rem Herbariam.* ‡ Cant. viii. § *Fructus boræi.* || *Philostrat.* figure vi, *De amoribus.*

[6] *and will extend, &c.*] First added in 2nd edition.

[7] *So the little cupids, &c.*] First added in 2nd edition.

CHAPTER II.

That a Man hath one Rib less than a Woman.

THAT a man hath one rib less than a woman, is a common conceit, derived from the history of Genesis, wherein it stands delivered, that Eve was framed out of a rib of Adam; whence it is concluded the sex of men still wants that rib our father lost in Eve. And this is not only passant with the many, but was urged against Columbus in an anatomy of his at Pisa, where having prepared the skeleton of a woman that chanced to have thirteen ribs on one side, there arose a party that cried him down, and even unto oaths affirmed, this was the rib wherein a woman exceeded. Were this true, it would ocularly silence that dispute out of which side Eve was framed; it would determine the opinion of Oleaster, that she was made out of the ribs of both sides, or such as from the expression of the text * maintain there was a plurality of ribs required; and might indeed decry the parabolical exposition of Origen, Cajetan, and such as fearing to concede a monstrosity, or mutilate the integrity of Adam, preventively conceive the creation of thirteen ribs.

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[8] *snake.*] Itt seemes to bee none of these but rather that species which Scaliger, the great secretary of nature, with noe reference to this storye, wittily cals (Exercitat. 226, §,) ἐγχελανθρώπους, wherof see [before, pp. 95, 6, 7.]—*Wr.*

But this will not consist with reason or inspection. For if we survey the skeleton of both sexes, and therein the compage of bones, we shall readily discover that men and women have four and twenty ribs; that is, twelve on each side, seven greater, annexed unto the *sternon*, and five lesser which come short thereof. Wherein if it sometimes happen that either sex exceed, the conformation is irregular, deflecting from the common rate or number, and no more inferrible upon mankind than the monstrosity of the son of Rapha, or the vitious excess in the number of fingers and toes. And although some difference there be in figure, and the female *os innominatum* be somewhat more protuberant, to make a fairer cavity for the infant; the *coccyx* sometime more reflected, to give the easier delivery; and the ribs themselves seem a little flatter; yet are they equal in number. And therefore, while Aristotle doubteth the relations made of nations, which had but seven ribs on a side, and yet delivereth, that men have generally no more than eight; as he rejecteth their history, so can we not accept of his anatomy.

Again, although we concede there wanted one rib in the skeleton of Adam, yet were it repugnant unto reason, and common observation, that his posterity should want the same. For we observe that mutilations are not transmitted from father unto son; the blind begetting such as can see, men with one eye children with two, and cripples mutilate in their own persons do come out perfect in their generations. For the seed conveyeth with it not only the extract and single idea of every part, whereby it transmits their perfections or infirmities; but double and over again; whereby sometimes it multipliciously delineates the same, as in twins, in mixed and numerous generations. Parts of the seed do seem to contain the idea and power of the whole; so parents deprived of hands, beget manual issues, and the defect of those parts is supplied by the idea of others. So in one grain of corn appearing similarly and insufficient for a plural germination, there lieth dormant the virtuality of many other; and from thence sometimes proceed above an hundred ears. And thus may be made out the cause of multiparous productions; for though the seminal materials disperse and separate in the matrix, the formative operator will not delineate a part, but endeavour the formation of the whole; effecting the same as far as the matter will permit, and from dividing materials attempt entire formations. And therefore, though wondrous strange, it may not be impossible what is confirmed at Lausdun concerning the Countess of Holland; nor what Albertus reports of the birth of an hundred and fifty. And if we consider the magnalities of generation in some things,[9] we shall not controvert its possibilities in others: nor easily question that great work, whose wonders are only second unto those of the creation, and a close apprehension of the one, might perhaps afford a glimmering light, and crepusculous glance of the other.

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* *Os ex ossibus meis.*

CHAPTER III.

Of Methuselah.

WHAT hath been every where opinioned by all men, and in all times, is more than paradoxical to dispute; and so, that Methuselah was the longest liver of all the posterity of Adam, we quietly believe: but that he must needs be so, is perhaps below paralogy to deny.[1] For hereof there is no determination from the text; wherein it is only particularised he was the longest liver of all the patriarchs whose age is there expressed; but that he out-lived all others, we cannot well conclude.[2] For of those nine whose death is mentioned before the flood, the text expresseth that Enoch was the shortest liver; who saw but three hundred sixty-five years. But to affirm from hence, none of the rest, whose age is not expressed, did die before that time, is surely an illation whereto we cannot assent.

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[9] *And if we consider, &c.*] "Many things are useful and convenient, which are not necessary: and if God had seen man might not want it, how easy had it been for him which made the woman of that bone, to turn the flesh into another bone? But he saw man could not complain of the want of that bone, which he had so multiplied, so animated. O God, we can never be losers by thy changes, we have nothing but what is thine, take from us thine own when thou wilt; we are sure thou canst not but give us better!"—*Bp. Hall's Contemp.* bk. 1, ch. 2.

Again many persons there were in those days of longevity, of whose age notwithstanding there is no account in Scripture; as of the race of Cain, the wives of the nine patriarchs, with all the sons and daughters that every one begat: whereof perhaps some persons might out-live Methuselah; the text intending only the masculine line of Seth, conduciable unto the genealogy of our Saviour, and the antediluvian chronology. And therefore we must not contract the lives of those which are left in silence by Moses; for neither is the age of Abel expressed in the Scripture, yet is he conceived far elder than commonly opinioned; and if we allow the conclusion of his epitaph as made by Adam, and so set down by Salian, *Posuit mœrens pater, cui à filio justius positum foret, Anno ab ortu rerum* 130; *Ab Abele nato* 129, we shall not need to doubt. Which notwithstanding Cajetan and others confirm; nor is it improbable, if we conceive that Abel was born in the second year of Adam,[3] and Seth a year after the death of Abel; for so it being said, that Adam was an hundred and thirty years old when he begat Seth, Abel must perish the year before, which was one hundred and twenty-nine.

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[1] *is perhaps below parology to deny.*] "To deny it is not hastily to be condemned as *false reasoning.*"

[2] *we cannot, &c.*] If the learned author had looked into the text, Gen. v, hee woulde have dasht this unnecessary and frivolous discourse, for in that the Holy Ghost does particularly mention all the 9 patriarchs' ages, as of men to whom God gave such long life for the peopling of the world: and tooke away all the rest of the world, not only in Caine's race, but in all the other patriarchal familyes, men, women, and children, that they might not live to propagate that wickedness which had overspread the world by the marriage of Seth's posterityes with Caine's female issue. Itt is fit to beleeve that God would never grant to any of Caine's posterity longer life then to the longest liver among the patriarchs, when he intended to cutt off even that life of theirs which hee permitted them to prolong till their sinns were fulfild: and therefore tooke away Mathuselah also the yeare that hee sent the flood to take away all (universally) then living, save Noah and his immediate family.—*Wr.*

[3] *second year, &c.*] Abel's birth is not deducible necessarily from Scripture: his death is more probable.—*Wr.*

And if the account of Cain[4] extend unto the deluge, it may not be improbable that some thereof exceeded any of Seth. Nor is it unlikely in life, riches, power, and temporal blessings, they might surpass them in this world, whose lives related unto the next. For so when the seed of Jacob was under affliction and captivity, that of Ishmael and Esau flourished and grew mighty, there proceeding from the one twelve princes, from the other no less than fourteen dukes and eight kings. And whereas the age of Cain and his posterity is not delivered in the text, some do salve it from the secret method of Scripture, which sometimes wholly omits, but seldom or never delivers the entire duration of wicked and faithless persons, as is observable in the history of Esau, and the kings of Israel and Judah. And therefore when mention is made that Ishmael lived 127 years, some conceive he adhered unto the faith of Abraham, for so did others who were not descended from Jacob, for Job is thought to be an Idumean, and of the seed of Esau.

Lastly, although we rely not thereon, we will not omit that conceit urged by learned men, that Adam was elder[5] than Methuselah; inasmuch as he was created in the perfect age of man, which was in those days 50 or 60 years, for about that time we read that they begat children; so that if unto 930 we add 60 years, he will exceed Methuselah; and therefore if not in length of days, at least in old age he surpassed others; he was older than all, who was never so young as any. For though he knew old age, he was never acquainted with puberty, youth or infancy, and so in a strict account he begat children at one year old. And if the usual compute will hold, that men are of the same age which are born within compass of the same year, Eve was as old as her husband and parent Adam, and Cain, their son, coetaneous unto both.

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[4] *Cain.*] Betweene the creation and the flood were 1656 yeares, to which, though Cain's owne accompt did not reach, yet his posteritye did. For upon them was the flood sent, yet not on them onlye, for all the posterityes of the patriarchal familyes, which doubtless were innumerable, did all perish in the flood, excepting only eight persons.—*Wr.*

[5] *Adam was elder.*] This phrase, as itt is commonly used, signifies elder in time, and then itt sayes nothing, for who denyes itt? But in lengthe of dayes from the birthe Adam was not soe old as Mathuselah by 20 yeares.—*Wr.*

Now that conception, that no man[6] did ever attain unto a thousand years, because none should ever be one day old in the sight of the Lord, unto whom, according to that of David, "A thousand years are but one day," doth not advantage Methuselah. And being deduced from a popular expression, which will not stand a metaphysical and strict examination, is not of force to divert a serious enquirer. For unto God a thousand years are no more than one moment, and in his sight Methuselah lived no nearer one day than Abel, for all parts of time are alike unto him, unto whom none are referrible, and all things present unto whom nothing is past or to come; and therefore, although we be measured by the zone of time, and the flowing and continued instants thereof do weave at last a line and circle about the eldest, yet can we not thus commensurate the sphere of Trismegistus,[7] or sum up the unsuccessive and stable duration of God.

CHAPTER IV.

That there was no Rainbow before the Flood.

THAT there shall no rainbow appear forty years before the end of the world, and that the preceding drought unto that great shame shall exhaust the materials of this meteor, was an assertion grounded upon no solid reason; but that there was not any in sixteen hundred years, that is, before the flood, seems deducible from Holy Scripture, Gen. ix, "I do set my bow in the cloud, and it shall be for a token of a covenant between me and the earth." From whence notwithstanding we cannot conclude the non-existence of the rainbow, nor is that chronology naturally established, which computeth the antiquity of effects arising from physical and settled causes, by additional impositions from voluntary determinators. Now by the decree of reason and philosophy, the rainbow hath its ground in nature, as caused by the rays of the sun, falling upon a rorid and opposite cloud, whereof some reflected, others refracted, beget that semi-circular variety we generally call the rainbow, which must succeed upon concurrence of causes and subjects aptly predisposed. And therefore to conceive there was no rainbow before, because God chose this out as a token of the covenant, is to conclude the existence of things from their signalities, or of what is objected unto the sense, a coexistence with that which is internally presented unto the understanding. With equal reason we may infer there was no water before the institution of baptism, nor bread and wine before the Holy Eucharist.

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[6] *that no man, &c.*] This is most true *de facto*, though the reason bee but symbolical, and concludes nothing necessarilye. For granting that Adam was created in the perfect age of man, as then itt was, which was rather 100 then 60, yet he lived noe more then 930 in all, viz. solar, sydereal, tropick years. To which if you add those hypothecall 60 yeares (for they are not reall but imaginary only), yet soe Adam would not reach to 1000 by 10 yeares, and therfore the saying is most true.—*Wr.*

[7] *sphere of Trismegistus.*] Trismegistus sayd God was a circle, whose center, that is, his presentiall and immutable essence, from whence all things have their beinge, is every where, but his circumference, that is, his incomprehensible infinity, is noe where.—*Wr.*

Again, while men deny the antiquity of one rainbow, they anciently concede another. For beside the solary iris which God shewed unto Noah, there is a lunary, whose efficient is the moon, visible only in the night, most commonly called at full moon, and some degrees above the horizon. Now the existence hereof men do not controvert, although effected by a different luminary in the same way with the other. And probably it appeared later, as being of rare appearance and rarer observation, and many there are which think there is no such thing in nature; and therefore by casual spectators they are looked upon like prodigies, and significations made, not signified by their natures.

Lastly, we shall not need to conceive God made the rainbow at this time, if we consider that in its created and predisposed nature, it was more proper for this signification, than any other meteor or celestial appearancy whatsoever. Thunder and lightning had too much terror to have been tokens of mercy. Comets or blazing stars appear too seldom to put us in mind of a covenant to be remembered often, and might rather signify the world should be once destroyed by fire, than never again by water. The *galaxia* or milky circle had been more probable; for beside that unto the latitude of thirty, it becomes their horizon twice in four and twenty hours, and unto such as live under the equator, in that space the whole circle appeareth, part thereof is visible unto any situation; but being only discoverable in the night, and when the air is clear, it becomes of unfrequent and comfortless signification. A fixed star had not been visible unto all the globe, and so of too narrow a signality in a covenant concerning all. But rainbows are seen unto all the world, and every position of sphere. Unto our own elevation they may appear in the morning, while the sun hath attained about forty-five degrees above the horizon, which is conceived the largest semidiameter of any iris, and so in the afternoon when it hath declined unto that altitude again, which height the sun not attaining in winter, rainbows may happen with us at noon or any time. Unto a right position of sphere they may appear three hours after the rising of the sun, and three before its setting; for the sun ascending fifteen degrees an hour, in three attaineth forty-five of altitude. Even unto a parallel sphere, and such as live under the pole, for half a year some segments may appear at any time and under any quarter, the sun not setting but walking round about them.

But the propriety of its election most properly appeareth in the natural signification and prognostic of itself; as containing a mixed signality of rain and fair weather. For, being in a rorid cloud and ready to drop, it declareth a pluvious disposure in the air; but because, when it appears, the sun must also shine, there can be no universal showers, and consequently no deluge. Thus, when the windows of the great deep were open, in vain men looked for the rainbow; for at that time it could not be seen, which after appeared unto Noah. It might be therefore existent before the flood, and had in nature some ground of its addition. Unto that of nature God superadded an assurance of its promise, that is, never to hinder its appearance or so to replenish the heavens again, as that we should behold it no more. And thus, without disparaging the promise, it might rain at the same time when God shewed it unto Noah; thus was there more therein than the heathens understood when they called it the *nuncia* of the gods, and the laugh of weeping heaven;* and thus may be elegantly said, I put my bow, not my arrow in the clouds, that is, in the menace of rain, the mercy of fair weather.

Cabalistical heads, who from that expression in Isaiah,† do make a book of heaven, and read therein the great concernments of earth, do literally play on this, and from its semicircular figure (resembling the Hebrew letter caph, whereby is signified the uncomfortable number of twenty, at which years Joseph was sold, which Jacob lived under Laban, and at which men were to go to war,) do note a propriety in its signification; as thereby declaring the dismal time of the deluge. And Christian conceits do seem to strain as high, while from the irradiation of the sun upon a cloud, they apprehend the mystery of the sun of righteousness in the obscurity of flesh, by the colours green and red, the two destructions of the world by fire and water, or by the colours of blood and water, the mysteries of baptism, and the Holy Eucharist.[8]

Laudable therefore is the custom of the Jews, who upon the appearance of the rainbow, do magnify the fidelity of God in the memory of his covenant, according to that of Syracides, "Look upon the rainbow, and praise him that made it." And though some pious and Christian pens have only symbolized the same from the mystery of its colours, yet are there other affections which might admit of theological allusions. Nor would he find a more improper subject, that should consider that the colours are made by refraction of light, and the shadows that limit that light; that the centre of the sun, the rainbow, and the eye of the beholder must be in one right line, that the spectator must be between the sun and the rainbow, that sometime three appear, sometime one reversed. With many others, considerable in meteorological divinity, which would more sensibly make out the epithet of the heathens,* and the expression of the son of Syrach, "Very beautiful is the rainbow, it compasseth the heaven about with a glorious circle, and the hands of the Most High have bended it."

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* *Risus plorantis Olympi.*

† Isa. xxxiv, 4.

[8] *Cabalistical heads, &c.*] The present paragraph was first added in the 2nd edition, in which also the same subject was first noticed in the last chapter of book vi, p. 291.

CHAPTER V.

Of Shem, Ham, and Japheth.

CONCERNING the three sons of Noah, Shem, Ham, and Japheth, that the order of their nativity was according to that of enumeration,[9] and Japheth the youngest son, (as most believe, as Austin and others account), the sons of Japheth, and Europeans need not grant, nor will it so well concord unto the letter of the text, and its readiest interpretations. For so is it said in our translation, Shem the father of all the sons of Heber, the brother of Japheth the elder, so by the Septuagint, and so by that of Tremellius. And therefore when the Vulgar reads it, *Fratre Japhet majore,* the mistake, as Junius observeth, might be committed by the neglect of the Hebrew accent, which occasioned Jerome so to render it, and many after to believe it. Nor is that argument contemptible which is deduced from their chronology, for probable it is that Noah had none of them before, and begat them from that year when it is said he was five hundred years old, and begat Shem, Ham, and Japheth. Again it is said he was six hundred years old at the flood, and that two years after Shem was but an hundred; therefore Shem must be born when Noah was five hundred and two, and some other before in the year of five hundred and one.

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* *Thaumancias.*

[9] *that the order of the nativity, &c.*] Mr. C. T. Beke, in the 5th chapter of his *Origines Biblicæ*, takes some pains to prove not only that Shem and not Japheth was Noah's eldest son (a point admitting some controversy), but that "the order in which the names of these three great progenitors of the human species are invariably placed when mentioned together in the sacred volume, may therefore be regarded as the order of their birth." Whereas "it is plainly delivered," as Sir Thomas remarks, that Ham, whose name stands invariably second, was the youngest son—a fact which absolutely overthrows this argument in favour of Shem's primogeniture, leaving the way open to its consideration on other grounds. Mr. Beke contends that its probability is "strengthened by the situation of the country, which, in his opinion, was occupied by Shem and his descendants, namely that in which Noah himself resided, while the possessions of Ham and Japheth, Shem's younger brothers, were situated, as they would naturally be imagined to have been, on either side of the paternal seat." He further endeavours to invalidate the argument against Shem's seniority, drawn from the 10th Gen. ver. 21,—"unto Shem also the father of all the children of Eber, the brother of Japheth the elder,"—by an examination of similar passages which would admit, if not favour the interpretation which Sir Thomas notices, as given to this passage by the Vulgate and others, viz. "the elder brother of Japheth." Neither does he admit the chronology to be conclusive against Shem, but concludes, after a lengthened consideration of the point, that "there could not have been a sufficient interval between the 500th year of Noah's life, and the birth of the father of Arphaxad (Shem), to allow of the intervention of an elder son."

Now whereas the Scripture affordeth the priority of order unto Shem, we cannot from thence infer his primogeniture. For in Shem the holy line was continued, and therefore however born, his genealogy was most remarkable. So is it not unusual in Holy Scripture to nominate the younger before the elder. So is it said, that * Terah beget Abraham, Nachor and Haram; whereas Haram was the eldest. So Rebecca † is termed the mother of Jacob and Esau. Nor is it strange the younger should be first in nomination, who have commonly had the priority in the blessings of God, and been first in his benediction. So Abel was accepted before Cain, Isaac the younger preferred before Ishmael the elder, Jacob before Esau, Joseph was the youngest of twelve, and David the eleventh son and minor cadet of Jesse.

Lastly, though Japheth were not elder than Shem, yet must we not affirm that he was younger than Cham; for it is plainly delivered, that, after Shem and Japheth had covered Noah, he awaked and knew what his youngest son had done unto him; υἱὸς ὁ νεώτερος is the expression of the Septuagint, *Filius minor* of Jerome, and *minimus* of Tremellius. And upon these grounds perhaps Josephus doth vary from the Scripture enumeration, and nameth them Shem, Japheth, and Cham: which is also observed by the Annian Berosus, Noah *cum tribus filiis, Semo, Jepeto, Chem.* And therefore, although in the priority of Shem and Japheth, there may be some difficulty, though Cyril, Epiphanius, and Austin have accounted Shem the elder, and Salian the annalist, and Petavius the chronologist, contend for the same; yet Cham is more plainly and confessedly named the youngest in the text.

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* Gen. xi. † Gen. xxviii.

And this is more conformable unto the Pagan history and Gentile account hereof, unto whom Noah was Satan, whose symbol was a ship, as related unto the ark, and who is said to have divided the world between his three sons. Ham is conceived to be Jupiter, who was the youngest son, worshipped by the name of Hamon, who was the Egyptian and African name for Jupiter, who is said to have cut off the genitals of his father, derived from the history of Ham, who beheld the nakedness of his, and by no hard mistake might be confirmed from the text,[*] as Bochartus[†] hath well observed.[9]

CHAPTER VI.

That the Tower of Babel was erected against a second Deluge.

An opinion there is of some generality, that our fathers after the flood attempted the tower of Babel, to secure themselves against a second deluge. Which, however affirmed by Josephus and others, hath seemed improbable unto many who have discoursed hereon. For (beside that they could not be ignorant of the promise of God never to drown the world again,[1] and had the rainbow before their eyes to put

[*] Gen. ix, 22.

[†] Reading *Veiaggod, et abscidit*, for *Veiegged, et nunciavit. Bochartus de Geographia sacrâ.*

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[9] *And this is more conformable, &c.*] This paragraph added in 2nd edition.

[1] *the promise of God, &c.*] This was an argument of beleef in the family of Sem in the Old Testament, and to the familyes of Japhet now in the new, that could not break his promise. But to the familyes of Ham, wherof Nimrod was the cheefe, is was of noe force: with them itt was more easie to slight first and then to forget that promise: when as they had now forgot God himselfe, as appeares by this bold attempt, which therfore most deservedly ended in confusion.—*Wr.*

them in mind thereof,) it is improbable from the nature of the deluge; which, being not possibly causable from natural showers above, or watery eruptions below, but requiring a supernatural hand,[2] and such as all acknowledge irresistible, must needs disparage their knowledge and judgment in so successless attempts.

Again, they must probably hear, and some might know, that the waters of the flood ascended fifteen cubits above the highest mountains. Now, if (as some define) the perpendicular altitude of the highest mountains be four miles, or (as others) but fifteen furlongs, it is not easily conceived how such a structure could be effected, except we allowed the description of Herodotus concerning the tower of Belus; whose lowest story was in height and breadth one furlong, and seven more built upon it; abating that of the Annian Berosus, the traditional relation of Jerome, and fabulous account of the Jews. Probable it is, that what they attempted was feasible, otherwise they had been amply fooled in the fruitless success of their labours, nor needed God to have hindered them, saying, "Nothing will be restrained from them, which they begin to do."[3]

It was improbable from the place, that is, a plain in the land of Shinar. And if the situation of Babylon were such at first as it was in the days of Herodotus, it was rather a seat of amenity and pleasure, than conducing unto this intention: it being in a very great plain, and so improper a place to provide against a general deluge by towers and eminent structures, that they were fain to make provisions against particular and annual inundations by ditches and trenches, after the manner of Egypt. And therefore Sir Walter

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[2] *requiring a supernatural hand.*] A late writer, speaking of the Mosaic account of the deluge, says, "What a scene of terrific and awful desolation does this narrative convey! How puerile those comments which exhibit animals and men *escaping* to the highest grounds and hills as the flood advanced. The impossibility of such escape may be immediately seen. Neither man nor beast under such circumstances could either advance or flee to any distance. Any animal, found in the plain when the flood began, would thus, be merged in water seven or eight feet deep in a quarter of an hour! And were he to attempt advancing up the rising ground, a cataract of sheet water several feet deep would be gushing all the way in his face, besides impending water-spouts from the 'flood gates' of heaven, momentarily bursting over him: he would instantly become a prey to those 'mighty waters."

[3] *whose lowest story, &c.*] This passage was altered and enlarged in the 2nd edition.

Raleigh* accordingly objecteth: if the nations which followed Nimrod still doubted the surprise of a second flood, according to the opinions of the ancient Hebrews, it soundeth ill to the ear of reason, that they would have spent many years in that low and overflown valley of Mesopotamia. And therefore in this situation, they chose a place more likely to have secured them from the world's destruction by fire, than another deluge of water: and, as Pierius observeth, some have conceived that this was their intention.

Lastly, the reason is delivered in the text. "Let us build us a city and a tower, whose top may reach unto heaven, and let us make us a name, lest we be scattered abroad upon the whole earth;" as we have already begun to wander over a part. These were the open ends proposed unto the people; but the secret design of Nimrod, was to settle unto himself a place of dominion, and rule over his brethren, as it after succeeded, according to the delivery of the text, "The beginning of his kingdom was Babel."

CHAPTER VII.

Of the Mandrakes of Leah.

We shall not omit the mandrakes[4] of Leah, according to the history of Genesis. "And Reuben went out in the days of wheat-harvest, and found mandrakes in the field, and brought them unto his mother Leah. Then Rachel said unto Leah, give me, I pray thee, of thy son's mandrakes: and she saith unto her, is it a small matter that thou hast taken my husband, and wouldst thou take my son's mandrakes also? And Rachel said, therefore he shall lie with thee this night for thy son's mandrakes." From whence hath arisen a common conceit, that Rachel requested these plants as a medicine of fecundation, or whereby she might become fruitful. Which notwithstanding is very questionable, and of incertain truth.

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* *History of the World.*

[4] *mandrakes.*] For a brief description of a plant bearing this name, see vol. ii, p. 350, note 8.

Ross concludes a page of criticism on our author's reasons for rejecting the popular opinion of Rachel's motives for requesting the mandrakes—by the following pithy expostulation;—"To be brief, I would know, whether it be a greater error in me to affirm that which is denied by some, or in him to deny that which is affirmed by all?"

For, first, from the comparison of one text with another, whether the mandrakes here mentioned be the same plant which holds that name with us, there is some cause to doubt. The word is used in another place of Scripture,* when the church inviting her beloved into the fields, among the delightful fruits of grapes and pomegranates, it is said, "the mandrakes give a smell, and at our gates are all manner of pleasant fruits." Now instead of a smell of delight, our mandrakes afford a papaverous and unpleasant odour, whether in the leaf or apple, as is discoverable in their simplicity or mixture. The same is also dubious from the different interpretations: for though the Septuagint and Josephus do render it the apples of mandrakes in this text, yet in the other of the Canticles, the Chaldee paraphrase termeth it balsam. R. Solomon, as Drusius observeth, conceives it to be that plant the Arabians named Jesemin. Oleaster, and Georgius Nenetus, the lily; and that the word *dudaim*, may comprehend any plant that hath a good smell, resembleth a woman's breast, and flourisheth in wheat harvest. Tremellius interprets the same for any amiable flowers of a pleasant and delightful odour. But the Geneva translators have been more wary than any; for although they retain the word mandrake in the text, they in effect retract it in the margin; wherein is set down the word in the original is *dudaim*, which is a kind of fruit or flower unknown.

Nor shall we wonder at the dissent of exposition, and difficulty of definition concerning this text, if we perpend how variously the vegetables of Scripture are expounded, and how hard it is in many places to make out the species determined. Thus are we at variance concerning the plant that covered Jonas: which though the Septuagint doth render *colocynthis,* the Spanish *calabaca,* and ours accordingly a gourd, yet the vulgar translates it *hedera* or ivy; and as Grotius observeth, Jerome thus translated it, not as the same plant, but best apprehended thereby. The Italian of Diodati, and that of Tremellius have named it *ricinus,* and so hath ours in the margin, for *palma Christi* is the same with *ricinus.* The Geneva translators have herein been also circumspect, for they have retained the original word *kikaion,* and ours hath also affixed the same unto the margin.

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* Cant. vii.

Nor are they indeed always the same plants which are delivered under the same name, and appellations commonly received amongst us. So when it is said of Solomon, that he writ of plants, "from the cedar of Lebanus, unto the hyssop that groweth upon the wall," that is from the greatest unto the smallest, it cannot be well conceived our common hyssop: for neither is that the least of vegetables, nor observed to grow upon walls; but rather as Lemnius well conceiveth, some kind of the capillaries, which are very small plants, and only grow upon walls and stony places. Nor are the four species in the holy ointment, cinnamon, myrrh, calamus and cassia, nor the other in the holy perfume, frankincense, *stacte, onycha,* and *galbanum,* so agreeably expounded unto those in use with us, as not to leave considerable doubts behind them. Nor must that perhaps be taken for a simple unguent, which Matthew only termeth a precious ointment; but rather a composition, as Mark and John imply by *pistick* nard, that is faithfully dispensed, and may be that famous composition described by Dioscorides, made of oil of ben, *malabathrum, juncus odoratus, costus, amomum,* myrrh, balsam and nard,* which Galen affirmeth to have been in use with the delicate dames of Rome, and that the best thereof was made at Laodicea, from whence by merchants it was conveyed unto other parts. But how to make out that translation concerning the tithe of mint, anise and cummin, we are still to seek; for we find not a word in the text that can properly be rendered anise, the Greek being ἀνηθὸν, which the

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* V. *Matthioli Epist.*

Latins call *anethum*, and is properly Englished dill. Lastly, what meteor that was, that fed the Israelites so many years, they must rise again to inform us. Nor do they make it out,* who will have it the same with our manna; nor will any one kind thereof, or hardly all kinds we read of, be able to answer the qualities thereof, delivered in the Scripture; that is to fall upon the ground, to breed worms, to melt with the sun, to taste like fresh oil, to be ground in mills, to be like coriander seed, and of the colour of bdellium.*[5]

Again, it is not deducible from the text or concurrent sentence of comments, that Rachel had any such intention, and most do rest in the determination of Austin, that she desired them for rarity, pulchritude, or suavity. Nor is it probable she would have resigned her bed unto Leah, when at the same time she had obtained a medicine to fructify herself. And therefore Drusius, who hath expressly and favourably treated hereof, is so far from conceding this intention, that he plainly concludeth, *Hoc quo modo illis in mentem venerit, conjicere nequeo;* "how this conceit fell into men's minds, it cannot fall into mine;" for the Scripture delivereth it not, nor can it be clearly deduced from the text.

Thirdly, if Rachel had any such intention, yet had they no such effect, for she conceived not many years after, of Joseph; whereas in the mean time Leah had three children, Issachar, Zebulon, and Dinah.

Lastly, although at that time they failed of this effect, yet is it mainly questionable whether they had any such virtue, either in the opinions of those times, or in their proper nature. That the opinion was popular in the land of Canaan, it is improbable; and had Leah understood thus much, she would not surely have parted with fruits of such a faculty; especially unto Rachel, who was no friend unto her. As for its proper nature, the ancients have generally esteemed it narcotick or stupefactive, and it is to be found in the list of poisons, set down by Dioscorides, Galen, Ætius, Ægineta, and several antidotes delivered by them against it. It was, I confess, from good antiquity, and in the days of Theophrastus, accounted a philter or plant that conciliates affection; and so delivered by Dioscorides. And this intent might seem most probable, had they not been the wives of holy Jacob; had Rachel presented them unto him, and not requested them for herself.

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* V. *Doctissimum Chrysostom. Magnenum de Manna.*

[5] *Lastly, &c.*] This passage was added in the 2nd edition.

Now what Dioscorides affirmeth in favour of this effect, that the grains of the apples of mandrakes mundify the matrix, and applied with sulphur stop the fluxes of women, he overthrows again by qualities destructive unto conception; affirming also that the juice thereof purgeth upward like hellebore; and applied in pessaries[6] provokes the menstruous flows, and procures abortion. Petrus Hispanus, or Pope John the Twentieth, speaks more directly in his *Thesaurus Pauperum:* wherein among the receipts of fecundation, he experimentally commendeth the wine of mandrakes given with *triphera magna.* But the soul of the medicine may lie in *triphera magna,* an excellent composition, and for this effect commended by Nicolaus. And whereas Levinus Lemnius, that eminent physician, doth also concede this effect, it is from manifest causes and qualities elemental occasionally producing the same. For he imputeth the same unto the coldness of that simple, and is of opinion that in hot climates, and where the uterine parts exceed in heat, by the coldness hereof they may be reduced into a conceptive constitution, and crasis accommodable unto generation; whereby indeed we will not deny the due and frequent use may proceed unto some effect; from whence, notwithstanding, we cannot infer a fertilitating condition or property of fecundation. For in this way all vegetables do make fruitful according unto the complexion of the matrix; if that excel in heat, plants exceeding in cold do rectify it; if it be cold, simples that are hot reduce it; if dry, moist; if moist, dry correct it; in which division all plants are comprehended. But to distinguish thus much is a point of art, and beyond the method of Rachel's or feminine physic. Again, whereas it may be thought that mandrakes may fecundate, since poppy hath obtained the epithet of fruitful, and that fertility was hieroglyphically described by Venus with an head of poppy in her hand; the reason hereof was the multitude of seed within itself, and no such multiplying in human generation. And lastly, whereas they may seem to have this quality, (since opium itself is conceived to extimulate unto venery, and for that intent is sometimes used by Turks, Persians, and most oriental nations,) although Winclerus doth seem to favour the conceit, yet Amatus Lusitanus, and Rodericus à Castro, are against it; Garcias ab Horto refutes it from experiment; and they speak probably who affirm the intent and effect of eating opium is not so much to invigorate themselves in coition, as to prolong the act, and spin out the motions of carnality.

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[6] *pessaries.*] Medicines made into an oblong shape.

CHAPTER VIII.

Of the Three Kings of Collein.[7]

A COMMON conceit there is of the three kings of Collein, conceived to be the wise men that travelled unto our Saviour by the direction of the star. Wherein, (omitting the large discourses of Baronius, Pineda, and Montacutius,) that they might be kings, beside the ancient tradition and authority of many fathers, the Scripture implieth; "The Gentiles shall come to thy light, and kings to the brightness of thy rising. The kings of Tharsis and the Isles, the kings of Arabia and Saba shall offer gifts." Which places most Christians and many rabbins interpret of the Messiah. Not that they are to be conceived potent monarchs, or mighty kings, but toparchs, kings of cities or narrow territories; such as were the kings of Sodom and Gomorrha, the kings of Jericho and Ai, the one and thirty which Joshua subdued, and such as some conceive the friends of Job to have been.

But although we grant they were kings, yet can we not be assured they were three. For the Scripture maketh no mention of any number; and the number of their presents, gold, myrrh, and frankincense, concludeth not the number of their persons; for these were the commodities of their country, and such as probably the queen of Sheba in one person had brought before unto Solomon. So did not the sons of Jacob divide the present unto Joseph, but are conceived to carry one for them all, according to the expression of their father; "Take of the best fruits of the land in your vessels, and carry down the man a present." And therefore their number being uncertain, what credit is to be given unto their names, Gasper, Melchior, Balthazar,[8] what to the charm thereof against the falling sickness, or what unto their habits, complexions, and corporal accidents, we must rely on their uncertain story, and received portraits of Collein.

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[7] *Three kings of Collein.*] Cologne on the Rhine.

Lastly, although we grant them kings, and three in number, yet could we not conceive that they were kings of Collein. For although Collein were the chief city of the Ubii, then called Ubiopolis, and afterwards Agrippina, yet will no history inform us there were three kings thereof. Beside, these being rulers in their countries, and returning home, would have probably converted their subjects; but according unto Munster, their conversion was not wrought until seventy years after, by Maternus, a disciple of Peter. And lastly, it is said that the wise men came from the east; but Collein is seated westward from Jerusalem; for Collein hath of longitude thirty-four degrees, but Jerusalem seventy-two.

The ground of all was this. These wise men or kings were probably of Arabia, and descended from Abraham by Keturah, who apprehending the mystery of this star, either by the Spirit of God, the prophecy of Balaam, the prophecy which Suetonius mentions, received and constantly believed through all the east, that out of Jewry one should come that should rule the whole world, or the divulged expectation of the Jews from the expiring prediction of Daniel, were by the same conducted unto Judea, returned into their country, and were after baptized by Thomas. From whence about three hundred years after, by Helena, the empress, their bodies were translated to Constantinople. From thence by Eustatius unto Milan, and at last by Renatus, the bishop, unto Collein, where they are believed at present to remain, their monuments shewn unto strangers, and having lost their Arabian titles, are crowned kings of Collein.

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[8] *Gasper, &c.*] According to the following distich in *Festa Anglo-Romana*, p. 7:

Tres reges regi regum tria dona ferebant;
Myrrham homini, uncto aurum, thura dedere Deo.

Selden says, that "our chusing kings and queens, on twelfth night, has reference to the three kings."—*Table Talk*, p. 20. See also *Universal Magazine*, 1774.—*Sir H. Piers's Westmeath*, 1682, in *Vallancey's Collectan.* i, No. 1, p. 124.—A writer in the *Gentleman's Magazine*, however, vol. xxxiv, p. 599, refers the twelfth night cake to the Roman custom of casting dice to decide who should be *rex convivii.*

It appears from *Gentleman's Magazine*, that on twelfth day, 1736, the king and the prince, at the chapel-royal, St. James's, made their offerings of gold, frankincense, and myrrh. These continue to be annually made—*by proxy.*—*Hone's Every-day Book*, vol. i, p. 59.

CHAPTER IX.

Of the food of John Baptist, Locusts and Wild Honey.

CONCERNING the food of John Baptist in the wilderness, locusts and wild honey, less popular opiniatrity should arise, we will deliver the chief opinions. The first conceived the locusts here mentioned to be that fruit which the Greeks name κεράτιον, mentioned by Luke in the diet of the prodigal son, the Latins *siliqua*, and some *panis sancti Johannis*, included in a broad pod, and indeed a taste almost as pleasant as honey. But this opinion doth not so truly impugn that of the locusts, and might rather call unto controversy the meaning of wild honey.*

The second affirmeth that they were the tops or tender crops of trees; for so *locusta* also signifieth. Which conceit is plausible in Latin, but will not hold in Greek, wherein the word is ἀκρίσι; except for ἀκρίδες, we read ἀκρόδρυα, or ἀκρέμονες, which signify the extremities of trees, of which belief have divers been; more confidently Isidore Pelusiota, who in his epistles plainly affirmeth they think unlearnedly who are of another belief. And this so wrought upon Baronius, that he

concludeth in neutrality; *Hæc cum scribat Isidorus, definiendum nobis non est, et totum relinquimus lectoris arbitrio; nam constat Græcam dictionem* ἀκρίδες, *et Locustam, insecti genus, et arborum summitates significare. Sed fallitur*, saith Montacutius, *nam constat contrarium*, Ἀκρίδα *apud nullum authorem classicum* Ἀκρόδρυα *significare.* But above all Paracelsus with most animosity promoteth this opinion, and in his book *De Melle* spareth not his friend Erasmus. *Hoc à nonnullis ita explicatur ut dicant Locustas aut cicadas Johanni pro cibo fuisse; sed hi stultitiam dissimulare non possunt, veluti Jeronymus, Erasmus, et alii prophetæ neoterici in Latinitate immortui.*

A third affirmeth that they were properly locusts, that is, a sheath-winged and six-footed insect, such as is our grasshopper. And this opinion seems more probable than the other.[9] For beside the authority of Origen, Jerome, Chrysostom, Hilary, and Ambrose to confirm it, this is the proper signification of the word, thus used in Scripture by the Septuagint; Greek vocabularies thus expound it; Suidas on the word Ἀκρὶς observes it to be that animal whereupon the Baptist fed in the desert; in this sense the word is used by Aristotle, Dioscorides, Galen, and several human authors. And lastly, there is no absurdity in this interpretation, nor any solid reason why we should decline it, it being a food permitted unto the Jews, whereof four kinds are reckoned up among clean meats. Besides, not only the Jews, but many other nations, long before and since, have made an usual food thereof. That the Ethiopians, Mauritanians, and Arabians did commonly eat them, is testified by Diodorus, Strabo, Solinus, Ælian, and Pliny; that they still feed on them is confirmed by Leo, Cadamustus, and others. John therefore, as our Saviour saith, "came neither eating nor drinking," that is, far from the diet of Jerusalem and other riotous places, but fared coarsely and poorly, according unto the apparel he wore, that is, of camel's hair; the place of his abode—the wilderness, and the doctrine he preached—humiliation and repentance.

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[9] *and this opinion, &c.*] Ross contends against the Dr. for the greater probability that John's diet was vegetable—on the ground that, as the Ethiopians, who were accustomed to use *locusts* for food, almost all fell a prey to *phthiriasis*, it is scarcely to be believed that John would have adopted a diet likely to entail so loathsome a disease.—*Arcana, p.* 95.

There is one species of the acacia tribe called the *honey locust*, bearing a large and very sweet pod, which is very commonly boiled and eaten in America; and this is supposed to have been the food of the Baptist.

CHAPTER X.

That John the Evangelist should not die.

The conceit of the long living, or rather not dying, of John the Evangelist, although it seem inconsiderable, and not much weightier than that of Joseph, the wandering Jew, yet being deduced from Scripture, and abetted by authors of all times, it shall not escape our enquiry. It is drawn from the speech of our Saviour unto Peter after the prediction of his martyrdom: "Peter saith unto Jesus, Lord, what shall this man do? Jesus saith unto him, If I will that he tarry until I come, what is that to thee? Follow thou me. Then went this saying abroad among the brethren, that this disciple should not die."*

Now the belief hereof hath been received either grossly and in the general, that is, not distinguishing the manner or particular way of this continuation, in which sense probably the grosser and undiscerning party received it; or more distinctly, apprehending the manner of his immortality, that is, that John should never properly die, but be translated into Paradise, there to remain with Enoch and Elias until about the coming of Christ, and should be slain with them under Antichrist, according to that of the Apocalypse; "I will give power unto my two witnesses, and they shall prophesy a thousand two hundred and threescore days clothed in sackcloth; and when they shall have finished their testimony, the beast that ascendeth out of the bottomless pit shall make war against them, and overcome them and kill them." Hereof, as Baronius observeth, within three hundred years after

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* John xxi.

Christ, Hippolytus the martyr was the first assertor, but hath been maintained by Metaphrastes, by Freculphus, but especially by Georgius Trapezuntius, who hath expressly treated upon this text, and although he lived but in the last century, did still affirm that John was not yet dead.

The same is also hinted by the learned Italian Poet Dante, who in his poetical survey of Paradise, meeting with the soul of St. John, and desiring to see his body, received answer from him, that his body was in earth, and there should remain with other bodies until the number of the blessed were accomplished.[1]

> In terra è terra il mio corpo, et saragli
> Tanto con gli altri, che l' numero nostro
> Con l' eterno proposito s' agguagli.

As for the gross opinion that he should not die, it is sufficiently refuted by that which first occasioned it, that is, the Scripture itself, and no further off than the very subsequent verse; "Yet Jesus said not unto him, he should not die, but if I will that he tarry till I come, what is that to thee?" And this was written by John himself, whom the opinion concerned, and (as is conceived) many years after, when Peter had suffered and fulfilled the prophecy of Christ.

For the particular conceit, the foundation is weak, nor can it be made out from the text alleged in the Apocalypse; for, beside that therein two persons only are named, no mention is made of John, a third actor in this tragedy. The same is also overthrown by history, which recordeth not only the death of John, but assigneth the place of his burial, that is, Ephesus, a city in Asia Minor; whither, after he had been banished into Patmos by Domitian, he returned in the reign of Nerva, there deceased, and was buried in the days of Trajan. And this is testified by Jerome, by Tertullian, by Chrysostom, and Eusebius,* (in whose days his sepulchre was to be seen,) and by a more ancient testimony alleged also by him, that is, of Polycrates, Bishop of Ephesus, not many successions after John; whose words are these, in an epistle unto Victor, Bishop of Rome: *Johannes ille qui supra pectus domini recumbebat, doctor optimus, apud Ephesum dormivit.* Many of the like nature are noted by Baronius, Jansenius, Estius, Lipellous, and others.

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* *De Scriptor. Ecclesiast. De anima.*

[1] *The same is also hinted, &c.*] This paragraph, together with the Italian quotation which follows it, was first added in the 6th edition.

Now the main and primitive ground of this error was a gross mistake in the words of Christ, and a false apprehension of his meaning; understanding that positively which was but conditionally expressed, or receiving that affirmatively which was but concessively delivered. For the words of our Saviour run in a doubtful strain, rather reprehending than satisfying the curiosity of Peter: as though he should have said, "thou hast thy own doom, why enquirest thou after thy brother's?—what relief unto thy affliction will be the society of another's?—why pryest thou into the secrets of God's will?—if he stay until I come, what concerneth it thee, who shalt be sure to suffer before that time?" And such an answer probably he returned, because he foreknew John should not suffer a violent death, but go unto his grave in peace. Which had Peter assuredly known, it might have cast some water on his flames, and smothered those fires which kindled after unto the honour of his Master.

Now why among all the rest John only escaped the death of a martyr, the reason is given; because all others fled away or withdrew themselves at his death, and he alone of the twelve beheld his passion on the cross. Wherein notwithstanding, the affliction that he suffered could not amount unto less than martyrdom: for if the naked relation, at least the intentive consideration of that passion, be able still, and at this disadvantage of time, to rend the hearts of pious contemplators, surely the near and sensible vision thereof must needs occasion agonies beyond the comprehension of flesh; and the trajections of such an object more sharply pierce the martyred soul of John, than afterwards did the nails the crucified body of Peter.

Again, they were mistaken in the emphatical apprehension, placing the consideration upon the words, "If I will," whereas it properly lay in these, "until I come." Which had they apprehended, as some have since, that is, not for his ultimate and last return, but his coming in judgment and destruction upon the Jews; or such a coming, as it might be said, that generation should not pass before it was fulfilled; they needed not, much less need we, suppose such diuturnity. For after the death of Peter, John lived to behold the same fulfilled by Vespasian: nor had he then his *nunc dimittis*, or went out like unto Simeon; but old in accomplished obscurities, and having seen the expire of Daniel's prediction, as some conceive, he accomplished his revelation.

But besides this original and primary foundation, divers others have made impressions according unto different ages and persons by whom they were received. For some established the conceit in the disciples and brethren which were contemporary unto him, or lived about the same time with him. And this was, first, the extraordinary affection our Saviour bare unto this disciple, who hath the honour to be called the disciple whom Jesus loved: now from hence they might be apt to believe their Master would dispense with his death, or suffer him to live to see him return in glory, who was the only apostle that beheld him to die in dishonour. Another was the belief and opinion of those times, that Christ would suddenly come; for they held not generally the same opinion with their successors, or as descending ages after so many centuries, but conceived his coming would not be long after his passion, according unto several expressions of our Saviour grossly understood, and as we find the same opinion not long after reprehended by St. Paul:* and thus, conceiving his coming would not be long, they might be induced to believe his favourite should live unto it. Lastly, the long life of John might much advantage this opinion; for he survived the other twelve—he was aged twenty-two years when he was called by Christ, and twenty-five (that is the age of priesthood) at his death, and lived ninety-three years, that is sixty-eight after his Saviour, and died not before the second year of Trajan: now, having out-lived all his fellows, the world was confirmed he might still live, and even unto the coming of his Master.

The grounds which promoted it in succeeding ages, were especially two. The first his escape of martyrdom; for whereas all the rest suffered some kind of forcible death, we have no history that he suffered any; and men might think he was not capable thereof; for as history informeth, by the command of Domitian he was cast into a caldron of burning oil, and came out again unsinged. Now future ages apprehending he suffered no violent death, and finding also the means that tended thereto could take no place, they might be confirmed in their opinion, that death had no power over him; that he might live always, who could not be destroyed by fire, and was able to resist the fury of that element which nothing shall resist. The second was a corruption, crept into the Latin text, for *si* reading *sic eum manere volo;* whereby the answer of our Saviour becometh positive, or that he will have it so; which way of reading was much received in former ages, and is still retained in the vulgar translation: but in the Greek and original the word is ἐὰν, signifying *si* or if, which is very different from οὕτω, and cannot be translated for it: and answerable hereunto is the translation of Junius, and that also annexed unto the Greek by the authority of Sixtus Quintus.

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* 2 Thess. ii.

The third confirmed it in ages farther descending, and proved a powerful argument unto all others following—because in his tomb at Ephesus there was no corpse or relick thereof to be found; whereupon arose divers doubts, and many suspicious conceptions; some believing he was not buried, some that he was buried but risen again, others, that he descended alive into his tomb, and from thence departed after. But all these proceeded upon unveritable grounds, as Baronius hath observed; who allegeth a letter of Celestine, Bishop of Rome, unto the council of Ephesus, wherein he declareth the relicks of John were highly honoured by that city; and a passage also of Chrysostom in the homilies of the apostles, "That John being dead, did cures in Ephesus, as though he were still alive." And so I observe that Estius, discusing this point, concludeth hereupon, *quòd corpus ejus nunquam reperiatur, hoc non dicerent si veterum scripta diligenter perlustrassent.*

Now that the first ages after Christ, those succeeding, or any other, should proceed into opinions so far divided from reason, as to think of immortality after the fall of Adam, or conceit a man in these later times should out-live our fathers in the first,—although it seem very strange, yet is it not incredible. For the credulity of men hath been deluded into the like conceits; and, as Irenæus and Tertullian mention, one Menander, a Samaritan, obtained belief in this very point, whose doctrine it was, that death should have no power on his disciples, and such as received his baptism should receive immortality therewith. 'T was surely an apprehension very strange; nor usually falling either from the absurdities of melancholy or vanities of ambition. Some indeed have been so affectedly vain, as to counterfeit immortality, and have stolen their death, in a hope to be esteemed immortal; and others have conceived themselves dead: but surely few or none have fallen upon so bold an error, as not to think that they could die at all. The reason of those mighty ones, whose ambition could suffer them to be called gods, would never be flattered into immortality; but the proudest thereof have by the daily dictates of corruption convinced the impropriety of that appellation. And surely, although delusion may run high, and possible it is that for a while a man may forget his nature, yet cannot this be durable. For the inconcealable imperfections of ourselves, or their daily examples in others, will hourly prompt us our corruption, and loudly tell us we are the sons of earth.

CHAPTER XI.

Of some others more briefly.

MANY others there are which we resign unto divinity, and perhaps deserve not controversy. Whether David were punished only for pride of heart for numbering the people, as most do hold, or whether, as Josephus and many maintain, he suffered also for not performing the commandment of God concerning capitation, that when the people were numbered, for every head they should pay unto God a shekel,*—we shall not here contend. Surely if it were not the occasion of this plague, we must acknowledge the omission thereof was threatened with that punishment, according to the words of the law. "When thou takest the sum of the children of Israel, then shall they give every man a ransom for his soul unto the Lord, that there be no plague amongst them."† Now how deeply hereby God was defrauded in the time of David, and opulent state of Israel, will easily appear by the sums of former lustrations. For in the first, the silver of them that were numbered was an hundred talents, and a thousand seven hundred and threescore and fifteen shekels; a bekah for every man, that is, half a shekel, after the shekel of the sanctuary; for every one from twenty years old and upwards, for six hundred thousand, and three thousand and five hundred and fifty men. Answerable whereto we read in Josephus, Vespasian ordered that every man of the Jews should bring into the Capitol two drachms; which amounts unto fifteen pence, or a quarter of an ounce of silver with us; and is equivalent unto a bekah, or half a shekel of the sanctuary. For an Attick drachm is seven-pence half-penny or a quarter of a shekel, and a *didrachmum*, or double drachm, is the word used for tribute money, or half a shekel; and a *stater*, the money found in the fish's mouth, was two *didrachmums*, or a whole shekel, and tribute sufficient for our Saviour and for Peter.

We will not question the metamorphosis of Lot's wife, or whether she were transformed into a real statue of salt: though some conceive that expression metaphorical,[2] and no more thereby than a lasting and durable column, according to the nature of salt, which admitteth no corruption;[3] in which sense the covenant of God is termed a covenant of salt; and it is also said, God gave the kingdom unto David for ever, or by a covenant of salt.

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* Exod. xxx. † Exod. xxxviii.

[2] *We will not question, &c.*] Dr. Adam Clarke has given a long note on this question, to which the reader is referred. He enumerates in addition to Browne's two hypotheses, a third:—viz. that, by continuing in the plain, she might have been struck dead with lightning, and enveloped and invested in the bituminous and sulphurous matter which descended. But Dr. C. evidently inclines to accept the *metaphorical* interpretation. A number of absurd and contradictory stories (he remarks,) have been told, of the discovery of Lot's wife still remaining unchanged—and indeed *unchangeable*,—her form having still resident in it a continual miraculous energy, reproductive of any part which is broken off: so that though multitudes of visitors have brought away each a morsel, yet does the next find the figure—complete! The author of the poem *De Sodoma*, at the end of Tertullian's works, and with him, Irenæus, asserts the figure

That Absalom was hanged by the hair of the head, and not caught up by the neck, as Josephus conceiveth, and the common argument against long hair affirmeth, we are not ready to deny. Although I confess a great and learned party there are of another opinion; although if he had his morion or helmet on, I could not well conceive it; although the translation of Jerome or Tremellius do not prove it, and our own seems rather to overthrow it.

That Judas hanged himself,—much more that he perished thereby,—we shall not raise a doubt.[4] Although Jansenius, discoursing the point, produceth the testimony of Theophylact and Euthymius, that he died not by the gallows, but under a cart wheel; and Baronius also delivereth, this was the opinion of the Greeks, and derived as high as Papias, one of the disciples of John. Although also how hardly the expression of Matthew is reconcileable unto that of Peter,—and that he plainly hanged himself, with that, that falling headlong he burst asunder in the midst,—with many other the learned Grotius plainly doth acknowledge. And lastly, although as he also urgeth, the word ἀπήγξατο in Matthew doth not only signify suspension or pendulous illaqueation, as the common picture describeth it, but also suffocation, strangulation or interception of breath, which may arise from grief, despair, and deep dejection of spirit, in which sense it is used in the history of Tobit concerning Sara, ἐλυπήθη σφόδρα ὥστε

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to possess certain indications of a remaining portion of animal life, and the latter father in the height of his absurdity, makes her an emblem of the true church, which, though she suffers much, and often loses whole members, yet preserves *the pillar of salt*, that is, *the foundation of the true faith!!* Josephus asserts that he himself saw the pillar. S. Clement also says that Lot's wife was remaining, even at that time, as a pillar of salt. Recent and more respectable travellers however have sought for her in vain, and it is now very generally admitted, either that the statue does not exist—or that some of the blocks of rock-salt met with in the vicinity of the Dead Sea—are the only remains of it.

[3] *which, &c.*] Itt admitteth noe corruption in other things, but itselfe suffers liquation, and corruption too, that is, looses its savour, as appears by that remarkable speech of our Saviour, Marc. ix, 50. —*Wr.*

[4] *That Judas, &c.*] See vol. ii, p. 33, note 2.

ἀπάγξασθαι, *Ita tristata est ut strangulatione premeretur*, saith Junius; and so might it happen from the horror of mind unto Judas.* So do many of the Hebrews affirm, that Achitophel was also strangled, that is not from the rope, but passion. For the Hebrew and Arabic word in the text, not only signifies suspension, but indignation, as Grotius hath also observed.

Many more there are of indifferent truths, whose dubious expositions worthy divines and preachers do often draw into wholesome and sober uses, whereof we shall not speak. With industry we decline such paradoxes and peaceably submit unto their received acceptions.

CHAPTER XII.

Of the Cessation of Oracles.

THAT oracles ceased or grew mute at the coming of Christ,[5] is best understood in a qualified sense, and not without all latitude, as though precisely there were none after, nor any decay before. For (what we must confess unto relations of antiquity,) some pre-decay is observable from that of Cicero, urged by Baronius; *Cur isto modo jam oracula Delphis non eduntur, non modo ætate, sed jam diu, ut nihil possit esse contemptius.* That during his life they were not altogether dumb, is deducible from Suetonius in the life of Tiberius, who attempting to subvert the oracles adjoining unto Rome, was deterred by the lots or chances which were delivered at Præneste. After his death we meet with many; Suetonius reports, that the oracle of Antium forewarned Caligula to beware of Cassius, who was one that conspired his death.

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* *Strangulat inclusus dolor.*

[6] *That oracles ceased, &c.*] On the subject of this very curious chapter, see a passage in *Rel. Med.* with a note thereon, vol. ii, p. 42, note 3;—and the *Tract on Oracles*, vol. iv, p. 226, note 5. Browne betrays, throughout, his full belief in the supernatural and Satanic character of oracles.

Plutarch enquiring why the oracles of Greece ceased, excepteth that of Lebadia: and in the same place Demetrius affirmeth the oracles of Mopsus and Amphilochus were much frequented in his days. In brief, histories are frequent in examples, and there want not some even to the reign of Julian.

What therefore may consist with history;—by cessation of oracles, with Montacutius, we may understand their intercision, not abscission or consummate desolation; their rare delivery, not total dereliction: and yet in regard of divers oracles, we may speak strictly, and say there was a proper cessation. Thus may we reconcile the accounts of times, and allow those few and broken divinations, whereof we read in story and undeniable authors. For that they received this blow from Christ, and no other causes alleged by the heathens, from oraculous confession they cannot deny; whereof upon record there are some very remarkable. The first that oracle of Delphos delivered unto Augustus.

Me puer Hebræus Divos Deus ipse gubernans,
Cedere sede jubet, tristemque redire sub orcum;
Aris ergo dehinc tacitus discedito nostris.

An Hebrew child, a God all gods excelling,
To Hell again commands me from this dwelling;
Our altars leave in silence, and no more
A resólution e'er from hence implore.

A second recorded by Plutarch, of a voice that was heard to cry unto mariners at the sea, *Great Pan is dead;* which is a relation very remarkable, and may be read in his defect of oracles. A third reported by Eusebius in the life of his magnified Constantine, that about that time Apollo mourned, declaring his oracles were false, and that the righteous upon earth did hinder him from speaking truth. And a fourth related by Theodoret, and delivered by Apollo Daphneus unto Julian, upon his Persian expedition, that he should remove the bodies about him before he could return an answer, and not long after his temple was burnt with lightning.

All which were evident and convincing acknowledgments of that power which shut his lips, and restrained that delusion which had reigned so many centuries. But as his malice is vigilant, and the sins of men do still continue a toleration of his mischiefs, he resteth not, nor will he ever cease to circumvent the sons of the first deceived. And therefore, expelled from oracles and solemn temples of delusion, he runs into corners, exercising minor trumperies, and acting his deceits in witches, magicians, diviners, and such inferior seducers. And yet (what is deplorable) while we apply ourselves thereto, and, affirming that God hath left off to speak by his prophets, expect in doubtful matters a resolution from such spirits; while we say the devil is mute, yet confess that these can speak; while we deny the substance, yet practise the effect, and in the denied solemnity maintain the equivalent efficacy; —in vain we cry that oracles are down; Apollo's altar still doth smoke; nor is the fire of Delphos out unto this day.

Impertinent it is unto our intention to speak in general of oracles, and many have well performed it. The plainest of others was that of Apollo Delphicus, recorded by Herodotus, and delivered unto Crœsus; who as a trial of their omniscience sent unto distant oracles: and so contrived with the messengers, that though in several places, yet at the same time they should demand what Crœsus was then a doing. Among all others the oracle of Delphos only hit it, returning answer, he was boiling a lamb with a tortoise, in a brazen vessel, with a cover of the same metal. The stile is haughty in Greek, though somewhat lower in Latin.

Æquoris est spatium et numerus mihi notus arenæ,
Mutum percipio, fantis nihil audio vocem.
Venit ad hos sensus nidor testudinis acris,
Quæ semel agninâ coquitur cum carne labete,
Aere infra strato, et stratum cui desuper æs est.

I know the space of sea, the number of the sand,
I hear the silent, mute I understand.
A tender lamb joined with tortoise flesh,
Thy master, King of Lydia, now doth dress.
The scent thereof doth in my nostrils hover,
From brazen pot closed with brazen cover.

Hereby indeed he acquired much wealth and more honour, and was reputed by Crœsus as a deity: and yet not long after, by a vulgar fallacy he deceived his favourite and greatest friend of oracles, into an irreparable overthrow by Cyrus. And surely the same success are likely all to have, that rely or depend upon him. 'T was the first play he practised on mortality; and as time hath rendered him more perfect in the art, so hath the inveterateness of his malice more ready in the execution. 'T is therefore the sovereign degree of folly, and a crime not only against God, but also our own reasons, to expect a favour from the devil, whose mercies are more cruel than those of Polyphemus; for he devours his favourites first, and the nearer a man approacheth, the sooner he is scorched by Moloch. In brief, his favours are deceitful and double-headed, he doth apparent good, for real and convincing evil after it; and exalteth us up to the top of the temple, but to tumble us down from it.

CHAPTER XIII.

Of the Death of Aristotle.

THAT Aristotle drowned himself in Euripus, as despairing to resolve the cause of its reciprocation, or ebb and flow seven times a day, with this determination, *Si quidem ego non capio te, tu capies me,* was the assertion of Procopius, Nazianzen, Justin Martyr, and is generally believed among us. Wherein because we perceive men have but an imperfect knowledge, some conceiving Euripus to be a river, others not knowing where or in what part to place it, we first advertise, it generally signifieth any strait, fret, or channel of the sea, running between two shores, as Julius Pollux hath defined it; as we read of Euripus Hellespontiacus, Pyrrhæus, and this whereof we treat, *Euripus Euboicus,* or *Chalcidicus,* that is, a narrow passage of sea dividing Attica, and the island of Eubœa, now called *Golfo di Negroponte,* from the name of the island and chief city thereof, famous in the wars of Antiochus, and taken from the Venetians by Mahomet the Great.

Now that in this Euripe or fret of Negroponte, and upon the occasion mentioned, Aristotle drowned himself, as many affirm, and almost all believe, we have some room to doubt.

For without any mention of this, we find two ways delivered of his death by Diogenes Laertius, who expressly treateth thereof; the one from Eumolus and Phavorinus, that being accused of impiety for composing an hymn unto Hermias, (upon whose concubine he begat his son Nicomachus,) he withdrew into Chalcis, where drinking poison he died; the hymn is extant in Laertius, and the fifteenth book of Athenæus. Another by Apollodorus,[6] that he died at Chalcis of a natural death and languishment of stomach, in his sixty-third, or great climacterical year; and answerable hereto is the account of Suidas and Censorinus. And if that were clearly made out, which Rabbi Ben Joseph affirmeth he found in an Egyptian book of Abraham Sapiens Perizol, that Aristotle acknowledged all that was written in the law of Moses, and became at last a proselyte, it would also make improbable this received way of his death.* [7]

Again, beside the negative of authority, it is also deniable by reason; nor will it be easy to obtrude such desperate attempts upon Aristotle, from unsatisfaction of reason, who so often acknowledged the imbecility thereof. Who in matters of difficulty, and such which were not without abstrusities, conceived it sufficient to deliver conjecturalities. And surely he that could sometimes sit down with high improbabilities, that could content himself, and think to satisfy others, that the variegation of birds was from their living in the sun, or erection made by delibration of the testicles; would not have been dejected unto death with this. He that was so well acquainted with ἢ ὅτι and πότερον, *utrum* and *an quia*, as we observe in the queries of his problems, with ἴσως and ἐπὶ τὸ πολὺ, *fortasse* and *plerumque*, as is observable through all his works, had certainly rested with probabilities, and glancing conjectures in this. Nor would his resolutions have ever run into that mortal *antanaclasis*, and desperate piece of rhetorick, to be comprised in that he could not comprehend. Nor is it indeed to be made out, that he ever endeavoured the particular of Euripus, or so much as to resolve the ebb and flow of the sea. For, as Vicomercatus and others observe, he hath made no mention hereof in his works, although the occasion present itself in his *Meteors*, wherein he disputeth the affections of the sea; nor yet in his *Problems*, although in the twenty-third section there be no less than one and forty queries of the sea. Some mention there is indeed in a work of the propriety of elements, ascribed unto Aristotle;* which notwithstanding is not reputed genuine, and was perhaps the same whence this was urged by Plutarch.

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* *Licetus de Quæsitis. Epist.*

[6] *another, &c.*] The most probable account.

[7] *And if that, &c.*] First added in the 2nd edition.

Lastly, the thing itself whereon the opinion dependeth, that is, the variety of the flux and the reflux of Euripus; or whether the same do ebb and flow seven times a day, is not incontrovertible. For though Pomponius Mela, and after him Solinus and Pliny have affirmed it, yet I observe Thucydides, who speaketh often of Eubœa, hath omitted it. Pausanius an ancient writer, who hath left an exact description of Greece, and in as particular a way as Leandro of Italy, or Camden of great Britain, describing not only the country towns and rivers, but hills, springs, and houses, hath left no mention hereof. Æschines in Ctesiphon only alludeth unto it; and Strabo that accurate geographer speaks warily of it, that is, ὡς φασί, and as men commonly reported. And so doth also Maginus, *Velocis ac varii fluctûs est mare, ubi quater in die, aut septics, ut alii dicunt, reciprocantur æstus.* Botero more plainly, *Il mar cresce e cala con un impeto mirabile quatra volte il di, ben che communimente si dica sette volte, &c.* "this sea with wondrous impetuosity ebbeth and floweth four times a day, although it be commonly said seven times; and generally opinioned, that Aristotle despairing of the reason, drowned himself therein." In which description by four times a day, it exceeds not in number the motion of other seas, taking the words properly, that is twice ebbing and twice flowing in four and twenty hours. And is no more than what Thomaso Porrchachi affirmeth in his description of famous islands, that twice a day it hath such an impetuous flood, as is not without wonder. Livy speaks more particularly, *Haud facile infestior classi statio est et fretum ipsum Euripi, non septies die (sicut fama fert) temporibus certis reciprocat, sed temerè in modum venti, nunc hunc nunc illuc verso mari, velut monte præcipiti devolutus torrens rapitur:* "there is hardly a worse harbour, the fret or channel of Euripus not certainly ebbing or flowing seven times a day, according to common report: but being uncertainly, and in the manner of a wind carried hither and thither, is whirled away as a torrent down a hill." But the experimental testimony of Gillius is most considerable of any; who having beheld the course thereof, and made enquiry of millers that dwelt upon its shore, received answer, that it ebbed and flowed four times a day, that is, every six hours, according to the law of the ocean; but that indeed sometimes it observed not that certain course. And this irregularity, though seldom happening, together with its unruly and tumultuous motion, might afford a beginning unto the common opinion. Thus may the expression in Ctesiphon be made out. And by this may Aristotle be interpreted, when in his problems he seems to borrow a metaphor from Euripus; while in the five and twentieth section he enquireth, why in the upper parts of houses the air doth Euripize, that is, is whirled hither and thither.

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* *De placitis Philosophorum.*

A later and experimental testimony is to be found in the travels of Monsieur Duloir; who about twenty years ago, remained sometime at Negroponte, or old Chalcis, and also passed and repassed this Euripus; who thus expresseth himself. "I wonder much at the error concerning the flux and reflux of Euripus; and I assure you that opinion is false. I gave a boatman a crown, to set me in a convenient place, where for a whole day I might observe the same. It ebbeth and floweth by six hours, even as it doth at Venice, but the course thereof is vehement." [8]

Now that which gave life unto the assertion, might be his death at Chalcis, the chief city of Eubœa, and seated upon Euripus, where 't is confessed by all he ended his days. That he emaciated and pined away in the too anxious enquiry of its reciprocations, although not drowned therein, as Rhodiginus relateth some conceived, was a half confession thereof not justifiable from antiquity. Surely the philosophy of flux and reflux was very imperfect of old among the Greeks and Latins; nor could they hold a sufficient theory thereof, who only observed the Mediterranean, which in some places hath no ebb, and not much in any part. Nor can we affirm our knowledge is at the height, who have now the theory of the ocean and narrow seas beside. While we refer it unto the moon, we give some satisfaction for the ocean, but no general salve for creeks and seas which know no flood; nor resolve why it flows three or four feet at Venice in the bottom of the gulph, yet scarce at all at Ancono, Durazzo, or Corcyra, which lie but by the way. And therefore old abstrusities have caused new inventions; and some from the hypotheses of Copernicus, or the diurnal and annual motion of the earth, endeavour to salve the flows and motions of these seas, illustrating the same by water in a bowl, that rising or falling to either side, according to the motion of the vessel; the conceit is ingenious, salves some doubts and is discovered at large by Galileo.* [9]

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[8] *A later and experimental, &c.*] First added in 6th edition.

But whether the received principle and undeniable action of the moon may not be still retained, although in some difference of application, is yet to be perpended; that is not by a simple operation upon the surface or superior parts, but excitation of the nitro-sulphureous spirits, and parts disposed to intumescency at the bottom; not by attenuation of the upper part of the sea, (whereby ships would draw more water at the flow than at the ebb) but inturgescencies caused first at the bottom, and carrying the upper part before them; subsiding and falling again, according to the motion of the moon from the meridian, and languor of the exciting cause: and therefore rivers and lakes who want these fermenting parts at the bottom, are not excited unto æstuations; and therefore some seas flow higher than others, according to the plenty of these spirits, in their submarine constitutions. And therefore also the periods of flux and reflux are various, nor their increase or decrease equal: according to the temper of the terreous parts at the bottom; which as they are more hardly or easily moved, do variously begin, continue or end their intumescencies.

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* *Rog. Bac. Doct. Cabeus Met.* 2.

[9] *and is discovered at large by Galileo.*] And by the Lord Bacon rejected in his booke, *De Fluxu et Refluxu Maris.* —*Wr.*

From the peculiar disposition of the earth at the bottom, wherein quick excitations are made, may arise those agars[9] and impetuous flows in some estuaries and rivers, as is observed about Trent and Humber in England; which may also have some effect in the boisterous tides of Euripus, not only from ebullitions at the bottom, but also from the sides and lateral parts, driving the streams from either side, which arise or fall according to the motion in those parts, and the intent or remiss operation of the first exciting causes, which maintain their activities above and below the horizon; even as they do in the bodies of plants and animals, and in the commotion of catarrhs.[1]

How therefore Aristotle died, what was his end, or upon what occasion, although it be not altogether assured, yet that his memory and worthy name shall live, no man will deny, nor grateful scholar doubt. And, if according to the elogy of Solon, a man may be only said to be happy after he is dead, and ceaseth to be in the visible capacity of beatitude; or if according unto his own ethicks, sense is not essential unto felicity, but a man may be happy without the apprehension thereof; surely in that sense he is pyramidally happy; nor can he ever perish but in the Euripe of ignorance, nor till the torrent of barbarism overwhelmeth all.

A like conceit there passeth of Melisigenes, *alias* Homer, the father poet, that he pined away upon the riddle of the fishermen. But Herodotus who wrote his life hath cleared this point; delivering, that passing from Samos unto Athens, he went sick ashore upon the island Ios, where he died, and was solemnly interred upon the sea side; and so decidingly concludeth, *Ex hac ægritudine extremum diem clausit Homerus in Io, non, ut arbitrantur aliqui, ænigmatis perplexitate enectus, sed morbo.*

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[9] *agar.*] The tumultuous influx of the tide.

[1] *But whether, the received principle, &c. From the peculiar, &c.*] These two paragraphs were first added in the 2nd edition.

CHAPTER XIV.

Of the Wish of Philoxenus, to have the Neck of a Crane.

THAT relation of Aristotle, and conceit generally received, concerning Philoxenus, who wished the neck of a crane, that thereby he might take more pleasure in his meat, although it pass without exception, upon enquiry I find not only doubtful in the story, but absurd in the desire or reason alleged for it.[2] For though his wish were such as is delivered, yet had it not perhaps that end to delight his gust in eating, but rather to obtain advantage thereby in singing, as is declared by Mirandula. Aristotle, saith he, in his *Ethicks* and *Problems,* accuseth Philoxenus of sensuality, for the greater pleasure of gust desiring the neck of a crane, which desire of his (assenting unto Aristotle), I have formerly condemned. But since I perceive that Aristotle for his accusation hath been accused by divers writers;—for Philoxenus was an excellent musician, and desired the neck of a crane, not for any pleasure at meat, but fancying thereby an advantage in singing or warbling, and dividing the notes in music;—and many writers there are which mention a musician of that name; as Plutarch in his book against *Usury,* and Aristotle himself, in the eighth of his *Politicks,* speaks of one Philoxenus, a musician, that went off from the Dorick dithyrambics unto the Phrygian harmony.

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[2] *That relation, &c.*] Our author's observations on this absurd story are quoted by Dr. John Bulwer, in his *Anthropometamorphosis,* &c. p. 276.

Ross goes into the history of Philoxenus at great length, and adheres, as usual, most tenaciously to the legend. He contends, and with some reason, that the *absurdity* of the wish, if granted, were no argument against its having been expressed, seeing that many have entertained wishes far more so. But he even asserts its reasonableness, "that there is much pleasure in deglutition of sweet meats and drinks, is plain by the practice of those who, to supply the want of long necks, used to suck their drink out of long small cranes, or quills, or glasses with long narrow snouts, &c. &c!!"

Again, be the story true or false, rightly applied or not, the intention is not reasonable, and that perhaps neither one way nor the other. For if we rightly consider the organ of taste, we shall find the length of the neck to conduce but little unto it; for the tongue being the instrument of taste, and the tip thereof the most exact distinguisher, it will not advantage the gust to have the neck extended; wherein the gullet and conveying parts are only seated, which partake not of the nerves of gustation, or appertaining unto sapor, but receive them only from the sixth pair; whereas the nerves of taste descend from the third and fourth propagations, and so diffuse themselves into the tongue; and therefore cranes, herons, and swans, have no advantage in taste beyond hawks, kites, and others of shorter necks.

Nor, if we consider it, had nature respect unto the taste in the different contrivance of necks, but rather unto the parts contained, the composure of the rest of the body, and the manner whereby they feed. Thus animals of long legs have generally long necks, that is, for the conveniency of feeding, as having a necessity to apply their mouths unto the earth. So have horses, camels, dromedaries, long necks, and all tall animals, except the elephant, who in defect thereof is furnished with a trunk, without which he could not attain the ground. So have cranes, herons, storks, and shovelards long necks; and so even in man, whose figure is erect, the length of the neck followeth the proportion of other parts; and such as have round faces or broad chests and shoulders, have very seldom long necks. For the length of the face twice exceedeth that of the neck, and the space between the throat-pit and the navel, is equal unto the circumference thereof. Again, animals are framed with long necks, according unto the course of their life or feeding; so many with short legs have long necks, because they feed in the water, as swans, geese, pelicans, and other fin-footed animals.[3] But hawks and birds of prey have short necks and trussed legs; for that which is long is weak and flexible, and a shorter figure is best accommodated unto that intention. Lastly, the necks of animals do vary, according to the parts that are contained in them, which are the weazand and the gullet. Such as have no weazand and breathe not, have scarce any neck, as most sort of fishes; and some none at all, as all sorts of pectinals, soals, thornback, flounders, and all crustaceous animals, as crevises,[4] crabs, and lobsters.

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[3] *fin-footed animals.*] Wee usually call them lether-footed,* but this terme suites with the use more significantlye.—*Wr.*

* Web-footed rather.

All which considered, the wish of Philoxenus will hardly consist with reason. More excusable had it been to have wished himself an ape,[5] which if common conceit speak true, is exacter in taste than any. Rather some kind of granivorous bird than a crane, for in this sense they are so exquisite, that upon the first peck of their bill, they can distinguish the qualities of hard bodies, which the sense of man discerns not without mastication. Rather some ruminating animal, that he might have eat his meat twice over; or rather, as Theophilus observed in Athenæus, his desire had been more reasonable, had he wished himself an elephant or a horse; for in these animals the appetite is more vehement, and they receive their viands in large and plenteous manner. And this indeed had been more suitable, if this were the same Philoxenus whereof Plutarch speaketh, who was so uncivilly greedy, that, to engross the mess,[6] he would preventively deliver his nostrils in the dish.[7]

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[4] *crevises.*] Now called *cray-fish.*

[5] *an ape.*] I thinke an ape is more exacte in the smel then in the taste: for he never tastes that which hee first smels not too. And how pleasant soever any food seeme to us, yf itt displease his smel, he throws it away with a kind of indignation.—*Wr.*

[6] *to engross the mess.*] I was assured by a friend that the following somewhat similar exploit was performed in a commercial traveller's room at ——. A dish of green peas was served very early in the season. One of the party, who preferred high seasoned peas to most other vegetables, and himself to every body besides, took an early opportunity of offering his services to help the peas, but he began by peppering them so unmercifully, that it was not very probable they would suit any other palate than his own. His neighbour, perceiving his own chance thus demolished, expostulated; and was told in reply of the virtues of *pepper*, as the only thing to make green peas wholesome. He instantly drew forth his snuff box, and dextrously scattered its contents over the dish, as the most summary means which occurred to him of defeating such palpable selfishness and gluttony, observing drily that he thought snuff an excellent addition to the pepper.

[7] *dish.*] There have been some whose slovenleyeness and greedines have æqualed his, by throwing a candles end into a messe of creame. But, more ingenious, frame a peece of aple like a candle, and therein stick a clove to deceave others of their deyntyes, in fine eating the counterfeit candle.—*Wr.*

Counterfeit candles' ends are now made

As for the musical advantage, although it seem more reasonable, yet do we not observe that cranes and birds of long necks have any musical, but harsh and clangous throats. But birds that are canorous, and whose notes we most commend, are of little throats and short necks, as nightingales, finches, linnets, Canary birds and larks. And truly, although the weazand, trottle and tongue be the instruments of voice, and by their agitations do chiefly concur unto these delightful modulations, yet cannot we distinctly and peculiarly assign the cause unto any particular formation; and I perceive the best thereof, the nightingale, hath some disadvantage in the tongue, which is not acuminate[8] and pointed as the rest, but seemeth as it were cut off, which perhaps might give the hint unto the fable of Philomela, and the cutting off her tongue by Tereus.

CHAPTER XV.

Of the Lake Asphaltites.

Concerning the Lake Asphaltites, the Lake of Sodom, or the Dead Sea, that heavy bodies cast therein sink not, but by reason of a salt and bituminous thickness in the water float and swim above, narrations already made are of that variety, we can hardly from thence deduce a satisfactory determination, and that not only in the story itself, but in the cause alleged. As for the story, men deliver it variously.[9] Some I

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of peppermint, which are admirable imitations of the attractive originals, and would have perfectly supplied the occasion related by the Dean.

[8] *acuminate.*] Yf the acuminate did any thinge to the songe or speech of birds, how comes itt that the blunt toung in the parat and the gaye [jay?] speake best, and in the bulfinch expresses the most excellent whistle.—*Wr.*

See note on the vocal organs of birds, vol ii, p. 518.

[9] *As for the story itself, &c.*] It is to be reckoned among the many strange and incredible stories, which both ancients and moderns have told respecting this lake. Dr. Pococke swam in it for nearly a quarter of an hour, and felt no inconvenience. He found the water very clear, and to contain no substances besides salt and alum. The fact is, that its waters are very salt, and therefore bodies float readily in it; and probably on that account few fish can live in it. Yet the monks of St. Saba assured Dr. Shaw that they had seen fish caught in the lake.—*See Dr. Adam Clarke's note in loc.*

fear too largely, as Pliny, who affirmeth that bricks will swim therein. Mandevil goeth further, that iron swimmeth, and feathers sink. Munster in his *Cosmography* hath another relation, although perhaps derived from the poem of Tertullian, that a candle burning swimmeth, but if extinguished sinketh.[1] Some more moderately, as Josephus, and many others, affirming that only living bodies float, nor peremptorily averring they cannot sink, but that indeed they do not easily descend. Most traditionally, as Galen, Pliny, Solinus, and Strabo, who seems to mistake the Lake Serbonis for it. Few experimentally, most contenting themselves in the experiment of Vespasian, by whose command some captives bound were cast therein, and found to float as though they could have swimmed. Divers contradictorily, or contrarily, quite overthrowing the point.[2] Aristotle, in the second of his *Meteors*, speaks lightly thereof, ὥσπερ μυθολογουσι, which word is variously rendered, by some as a fabulous account, by some as a common talk. Biddulphus * divideth the common accounts of Judea into three parts; the one, saith he, are apparent truths, the second apparent falsehoods, the third are dubious or between both, in which form he ranketh the relation of this lake. But Andrew Thevet, in his *Cosmography*, doth ocularly overthrow it, for he affirmeth he saw an ass with his saddle cast therein and drowned. Now of these relations so different or contrary unto each other, the second is most moderate and safest to be embraced, which saith that living bodies swim therein, that is, they do not easily sink, and this, until exact experiment further determine, may be allowed as best consistent with this quality, and the reasons alleged for it.

As for the cause of this effect, common opinion conceives it to be the salt and bituminous thickness of the water. This indeed is probable, and may be admitted as far as the second opinion concedeth. For certain it is that salt water will sup-

* *Biddulphi Itinerarium, Anglicè.*

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[1] *sinketh.*] Soe it will doe in anye water, if kept upright.—*Wr.*

[2] *divers contradictorily.*] This diversity may proceed from the diverse experiments that have been made on severall sides of the lake, which have not all the like effecte: in some partes it beares that which in another part will sinke, as hath been experimented by some late travelers.—*Wr.*

port a greater burden than fresh; and we see an egg will descend in fresh water, which will swim in brine. But that iron should float therein, from this cause, is hardly granted; for heavy bodies will only swim in that liquor, wherein the weight of their bulk exceedeth not the weight of so much water as it occupieth or taketh up. But surely no water is heavy enough to answer the ponderosity of iron, and therefore that metal will sink in any kind thereof, and it was a perfect miracle which was wrought this way by Elisha. Thus we perceive that bodies do swim or sink in different liquors, according unto the tenuity or gravity of those liquors which are to support them. So salt water beareth that weight which will sink in vinegar; vinegar that which will fall in fresh water; fresh water that which will sink in spirits of wine; and that will swim in spirits of wine which will sink in clear oil; as we made experiment in globes of wax pierced with light sticks to support them. So that although it be conceived a hard matter to sink in oil, I believe a man should find it very difficult, and next to flying to swim therein. And thus will gold sink in quicksilver, wherein iron and other metals swim; for the bulk of gold is only heavier than that space of quicksilver which it containeth; and thus also in a solution of one ounce of quicksilver in two of *aqua fortis*, the liquor will bear amber, horn, and the softer kinds of stones, as we have made trial in each.

But a private opinion there is which crosseth the common conceit, maintained by some of late, and alleged of old by Strabo, that the floating of bodies in this lake proceeds not from the thickness of water, but a bituminous ebullition from the bottom, whereby it wafts up bodies injected, and suffereth them not easily to sink. The verity thereof would be enquired by ocular exploration, for this way is also probable. So we observe, it is hard to wade deep in baths where springs arise; and thus sometime are balls made to play upon a spouting stream.[3]

And therefore, until judicious and ocular experiment confirm or distinguish the assertion, that bodies do not sink herein at all, we do not yet believe; that they do, not easily, or with more difficulty, descend in this than other water, we shall readily asssent.[4] But to conclude an impossibility from a difficulty, or affirm whereas things not easily sink, they do not drown at all; beside the fallacy, is a frequent addition in human expression, and an amplification not unusual as well in opinions as relations; which oftentimes give indistinct accounts of proximities, and without restraint transcend from one another. Thus, forasmuch as the torrid zone was conceived exceeding hot, and of difficult habitation, the opinions of men so advanced its constitution, as to conceive the same unhabitable, and beyond possibility for man to live therein. Thus, because there are no wolves in England, nor have been observed for divers generations, common people have proceeded into opinions, and some wise men into affirmations, they will not live therein, although brought from other countries. Thus most men affirm, and few here will believe the contrary, that there be no spiders in Ireland; but we have beheld some in that country; and though but few, some cobwebs we behold in Irish wood in England. Thus the crocodile from an egg growing up to an exceeding magnitude, common conceit, and divers writers deliver, it hath no period of increase, but groweth as long as it liveth.[5] And thus in brief, in most apprehensions the conceits of men extend the considerations of things, and dilate their notions beyond the propriety of their natures.

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[3] *spouting stream.*] This confirmeth what I noted before, for, as in the hot bathe, so here, the bituminous ebullition is but in some places stronge, and in some places of the lake not at all.—*Wr.*

In the maps of the Dead Sea or Lake of Sodom, we meet with the destroyed cities, and in divers the city of Sodom placed about the middle, or far from the shore of it; but that it could not be far from Segor, which was seated under the mountains, near the side of the Lake, seems inferrible from the sudden arrival of Lot, who coming from Sodom at day-break, attained Segor at sun-rising; and therefore Sodom to be placed not many miles from it, and not in the middle of the Lake, which is accounted about eighteen miles over; and so will leave about nine miles to be passed in too small a space of time.

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[4] *readily assent.*] And hee should adde, in some places itt beares, in others not.—*Wr.*

[5] *groweth, &c.*] This may bee true inoughe in regard of the vast bignes which is reported of some of them; and what should hinder? For in men and creatures also kept for food, their bulke growes stil greater, though not their stature.—*Wr.*

It is probably true, of the whole order to which the crocodle belongs (*the saurians*) that they have "no period of increase"—they have no *metamorphosis*, like many other animals, (and some in the same class,) to place a limit, by its completion, to the further growth of the individual. Nor do they, like the vertebrate animals, arrive early at a maximum of growth, which is not afterwards increased, except in corpulency. Congeniality of climate makes a striking difference in magnitude, at the same age, between saurians of different countries, (for example, the crocodile of the Nile is larger than any other of its species,) but in all, growth, though *very* slow, is probably continued through life; unless, indeed, extreme old age may begin the end, by ending the vital power of growth, which seems probable, but would not impugn our author's position.

CHAPTER XVI.

Of Divers other Relations, viz:—Of the Woman that Conceived in a Bath;—Of Crassus that never Laughed but once;—That our Saviour never Laughed;—Of Sergius the Second, or Bocca di Porco;—That Tamerlane was a Scythian Shepherd.

The relation of Averroes, and now common in every mouth, of the woman that conceived in a bath, by attracting the sperm or seminal effluxion of a man admitted to bathe in some vicinity unto her,[6] I have scarce faith to believe: and had I been of the jury, should have hardly thought I had found the father in the person that stood by her. 'T is a new and unseconded way in history to fornicate at a distance, and much offendeth the rules of physic, which say, there is no generation without a joint emission, nor only a virtual, but corporal and carnal contaction. And although Aristotle and his adherents do cut off the one, who conceive no effectual ejaculation in women; yet in defence of the other they cannot be introduced. For if, as he believeth, the inordinate longitude of the organ, though in its proper recipient, may be a mean to inprolificate the seed; surely the distance of place, with the commixture of an aqueous body must prove an effectual impediment, and utterly prevent the success of a conception. And therefore that conceit concerning the daughters of Lot, that they were impregnated by their sleeping father, or conceived by seminal pollution received at distance from him, will hardly be admitted. And therefore what is related of devils, and the contrived delusions of spirits, that they steal the seminal emissions of man, and transmit them into their votaries in coition, is much to be suspected; and altogether to be denied, that there ensue conceptions thereupon; however husbanded by art, and the wisest menagery of that most subtile impostor. And therefore also that our magnified Merlin was thus begotten by the devil, is a groundless conception; and as vain to think from thence to give the reason of his prophetical spirit. For if a generation could succeed, yet should not the issue inherit the faculties of the devil, who is but an auxiliary, and no univocal actor; nor will his nature substantially concur to such productions.

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[6] *by attracting, &c.*] No absurdity, which Browne undertakes to refute—though so gross as not to merit notice, appears too monstrous to find acceptance with Ross. He finds it "quite possible, even as the stomach attracteth meat and drink, though in some distance from it." The conceit respecting Lot is not suggested by the scriptural account, which only asserts that he did not recognize his daughters.

And although it seems not impossible, that impregnation may succeed from seminal spirits, and vaporous irradiations, containing the active principle, without material and gross immissions; as it happeneth sometimes in imperforated persons, and rare conceptions of some much under puberty or fourteen. As may be also conjectured in the coition of some insects, wherein the female makes intrusion into the male; and from the continued ovation in hens, from one single tread of a cock, and little stock laid up near the vent, sufficient for durable prolification. And although also in human generation the gross and corpulent seminal body may return again, and the great business be acted by what it carrieth with it: yet will not the same suffice to support the story in question, wherein no corpulent immission is acknowledged; answerable unto the fable of Talmudists, in the story of Benzira, begotten in the same manner on the daughter of the prophet Jeremiah.[7]

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[7] *And although, &c.*] This paragraph first added in 3rd edition.

2. The relation of Lucillius, and now become common concerning Crassus, the grandfather of Marcus the wealthy Roman, that he never laughed but once in all his life, and that was at an ass eating thistles, is something strange. For, if an indifferent and unridiculous object could draw his habitual austereness unto a smile, it will be hard to believe he could with perpetuity resist the proper motives thereof. For the act of laughter, which is evidenced by a sweet contraction of the muscles of the face, and a pleasant agitation of the vocal organs, is not merely voluntary, or totally within the jurisdiction of ourselves, but, as it may be constrained by corporal contaction in any, and hath been enforced in some even in their death, so the new, unusual, or unexpected, jucundities which present themselves to any man in his life, at some time or other, will have activity enough to excitate the earthiest soul, and raise a smile from most composed tempers. Certainly the times were dull when these things happened, and the wits of those ages short of these of ours; when men could maintain such immutable faces, as to remain like statues under the flatteries of wit, and persist unalterable at all efforts of jocularity. The spirits in hell, and Pluto himself, whom Lucian makes to laugh at passages upon earth, will plainly condemn these Saturnines, and make ridiculous the magnified Heraclitus, who wept preposterously, and made a hell on earth; for rejecting the consolations of life, he passed his days in tears, and the uncomfortable attendments of hell.[8]

3. The same conceit[9] there passeth concerning our blessed Saviour, and is sometime urged as a high example of gravity. And this is opinioned, because in Holy Scripture it is recorded he sometimes wept, but never that he laughed. Which howsoever granted, it will be hard to conceive how he passed his younger years and childhood without a smile, if as divinity affirmeth, for the assurance of his humanity unto men, and the

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[8] *the uncomfortable, &c.*] Ross remarks with much reason on this observation, that "oftentimes there is hell in laughing, and a heaven in weeping:" and that "good men find not the uncomfortable attendments of hell in weeping, but rather the comfortable enjoyments of heaven."—*Arcana*, p. 176.

[9] *The same conceit, &c.*] Tis noe argument to say tis never read in Scripture that Christ laughed, therefore he did never laughe, but on the other side to affirme, that hee did laughe is therefore dangerous bycause unwarrantable and groundles.—*Wr.*

concealment of his divinity from the devil, he passed this age like other children, and so proceeded until he evidenced the same. And surely herein no danger there is to affirm the act or performance of that, whereof we acknowledge the power and essential property; and whereby indeed he most nearly convinced the doubt of his humanity.[1] Nor need we be afraid to ascribe that unto the incarnate Son, which sometimes is attributed unto the uncarnate Father; of whom it is said, "He that dwelleth in the heavens shall laugh the wicked to scorn." For a laugh there is of contempt or indignation, as well as of mirth and jocosity: and that our Saviour was not exempted from the ground hereof, that is, the passion of anger, regulated and rightly ordered by reason, the schools do not deny; and, besides the experience of the money-changers and dove-sellers in the temple, is testified by St. John, when he saith, the speech of David was fulfilled in our Saviour.*

Now the alogy of this opinion consisteth in the illation; it being not reasonable to conclude from Scripture negatively in points which are not matters of faith, and pertaining unto salvation. And therefore, although in the description of the creation there be no mention of fire,[2] Christian philosophy did not think it reasonable presently to annihilate that element, or positively to decree there was no such thing at all.[3]

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* *Zelus domûs tuæ comedit me.*

[1] *humanity.*] The doubt of his humanity was convinced soe many other wayes (before his passion) as by his birth, his circumcision, his hunger at the fig-tree, his compassion and teares over his friend Lazarus, and those other instances here alleaged, that the propertye of risibilitye (which is indeed the usuall instance of the schooles) though it bee inseparable from the nature of man, and incommunicable to any other nature, yet itt does not infer the necessitye of the acte in every individuall subject or person of man; noe more then the power and propertye of numeration (wherof no other creature in the world is capable) can make every man an arithmetician. Itt is likewise recorded of Julius Saturninus, sonne to Philippus (Arabs) the emperor, that from his birth *nullo prorsus cujusquam commento ad ridendum moveri potuerit.*—*Wr.*

It is the characteristic description of our Redeemer that "he was a man of sorrows and acquainted with grief." Will it not be felt by every Christian, that *laughter* is utterly out of keeping with the dignity, the character and office of him, who himself took our infirmities, and bare our sins; who spent a life in the endurance of the contradiction of sinners against himself,—and in the full and constant contemplation of that awful moment when he was to lay down that life for their sakes? The difficulty would have been to credit the contrary tradition, had it existed.

[2] *fire.*] There is no mention of mettals or fossiles; and yet wee know they were created then, or else they could not now bee.—*Wr.*

[3] *at all.*] Many things may perchance be past over in silence in Holy Scripture, which notwithstandinge are knowne to

Thus, whereas in the brief narration of Moses there is no record of wine before the flood, we cannot satisfactorily conclude that Noah[4] was the first that ever tasted thereof.* And thus, because the word brain is scarce mentioned once, but heart above a hundred times in Holy Scripture, physicians that dispute the principality of parts are not from hence induced to bereave the animal organ of its priority. Wherefore the Scriptures being serious, and commonly omitting such parergies, it will be unreasonable from hence to condemn all laughter, and from considerations inconsiderable to discipline a man out of his nature. For this is by rustical severity to banish all urbanity: whose harmless and confined condition, as it stands commended by morality, so is it consistent with religion, and doth not offend divinity.

4. The custom it is of Popes to change their name at their creation; and the author thereof is commonly said to be *Bocca di Porco,* or Swines-face; who therefore assumed the stile of Sergius the 2nd, as being ashamed so foul a name should dishonour the chair of Peter; wherein notwithstanding, from Montacutius and others, I find there may be some mistake. For Massonius who writ the lives of Popes, acknowledgeth he was not the first that changed his name in that see; nor as Platina affirmeth, have all his successors precisely continued that custom; for Adrian the sixth, and Marcellus the second, did still retain their baptismal denomination. Nor is it proved, or probable, that Sergius changed

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* Only in the vulgar Latin, Judg. ix, 53.

bee partes of the creation, and many things spoken to the vulgar capacity, which must be understood in a modified sense. But never any thinge soe spoken as might be convinced of falshood: soe that either God or Copernicus, speaking contradictions, cannot both speak truthe. And therefore, *sit Deus verus et omnis homo mendax*, that speakes contradictions to him.—*Wr.*

[4] *Noah.*] Noah was not the first that tasted of the grape: but itt is expresly sayd, Genes. ix, 21, that Noah was the first husbandman that planted a vineyard, and that first made wine, and therfore was the first that dranke of the wine; which does not only satisfactorily but necessarily oblige us to a beleefe that wine made by expression into a species of drinke was not knowne, and therfore not used in that new (dryed) world till Noah invented itt. Itt was then, as itt is now in the new westerne plantations, where they have the vine, and eate the grapes, but do not drinke wine, bycause they never began to plant vineyardes till now of late.—*Wr.*

the name of Bocca di Porco, for this was his surname,[5] or gentilitious appellation; nor was it the custom to alter that with the other: but he commuted his Christian name Peter for Sergius, because he would seem to decline the name of Peter the second. A scruple I confess not thought considerable in other sees, whose originals and first patriarchs have been less disputed; nor yet perhaps of that reality as to prevail in points of the same nature. For the names of the apostles, patriarchs, and prophets have been assumed even to affectation. The name of Jesus[6] hath not been appropriated; but some in precedent ages have born that name, and many since have not refused the Christian name of Emmanuel. Thus are there few names more frequent than Moses and Abraham among the Jews. The Turks without scruple affect the name of Mahomet, and with gladness receive so honourable cognomination.

And truly in human occurrences there ever have been many well directed intentions, whose rationalities will never bear a rigid examination, and though in some way they do commend their authors, and such as first began them, yet have they proved insufficient to perpetuate imitation in such as have succeeded them. Thus was it a worthy resolution of Godfrey, and most Christians have applauded it, that he refused to wear a crown of gold where his Saviour had worn one of thorns. Yet did not his successors durably inherit that scruple, but some were anointed, and solemnly accepted the diadem of regality. Thus Julius, Augustus, and Tiberius with great humility or popularity refused the name of Imperator, but their successors have challenged that title, and retained the same even in its titularity. And thus, to come nearer our subject, the humility of Gregory the Great would by no means admit the stile of universal bishop; but the ambition of Boniface made no scruple thereof, nor of more queasy resolutions have been their successors ever since.

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[5] *surname.*] Itt might bee his sire-name: but doubtles it was first a nic-name fastened on some of his progenitors. —*Wr.*

[6] *The name, &c.*] The name of Jesus was not the same, *per omnia*, in Joshua; and Jesu was never given to any before the angel brought itt from heaven. The names of patriarches and prophets have been imposed (not assumed) as memorials (to children) of imitation: and that of Emmanuel in a qualified sense onlye. But that never any Pope would bee stiled Peter the second, proceeds from a mysterye of policye; that they may rather seeme successors to his power, then to his name, which they therefore decline of purpose: that Christ's vicariate authoritye may seeme to descend not from personal succession, but immediately from [him] who first derived it on Peter. —*Wr.*

5. That Tamerlane[7] was a Scythian shepherd, from Mr. Knollis and others, from Alhazen a learned Arabian who wrote his life, and was spectator of many of his exploits, we have reasons to deny. Not only from his birth,—for he was of the blood of the Tartarian emperors, whose father Og had for his possession the country of Sagathy, (which was no slender territory, but comprehended all that tract wherein were contained Bactriana, Sogdiana, Margiana, and the nation of the Massagetes, whose capital city was Samarcand, a place, though now decayed, of great esteem and trade in former ages,)—but from his regal inauguration, for it is said, that being about the age of fifteen, his old father resigned the kingdom, and men of war unto him. And also from his education, for as the story speaks it, he was instructed in the Arabian learning, and afterwards exercised himself therein. Now Arabian learning was in a manner all the liberal sciences, especially the mathematicks, and natural philosophy; wherein, not many ages before him there flourished Avicenna, Averroes, Avenzoar, Geber, Almanzor, and Alhazen, cognominal unto him that wrote his history, whose chronology indeed, although it be obscure, yet in the opinion of his commentator, he was contemporary unto Avicenna, and hath left sixteen books of opticks, of great esteem with ages past, and textuary unto our days.

Now the ground of this mistake was surely that which the Turkish historian declareth. Some, saith he, of our historians will needs have Tamerlane to be the son of a shepherd. But this they have said, not knowing at all the custom of their country; wherein the principal revenues of the king and nobles consisteth in cattle; who, despising gold and silver, abound in all sorts thereof. And this was the occasion that some men call them shepherds, and also affirm this prince descended from them. Now, if it be reasonable, that great men whose possessions are chiefly in cattle should bear the name of shepherds, and fall upon so low denominations, then may we say that Abraham was a shepherd, although too powerful for four kings; that Job was of that condition, who beside camels and oxen had seven thousand sheep,[8] and yet is said to be the greatest man in the east. Thus was Mesha, king of Moab, a shepherd, who annually paid unto the crown of Israel, an hundred thousand lambs, and as many rams. Surely it is no dishonourable course of life which Moses and Jacob have made exemplary: 'tis a profession supported upon the natural way of acquisition, and though contemned by the Egyptians, much countenanced by the Hebrews, whose sacrifices required plenty of sheep and lambs. And certainly they were very numerous; for, at the consecration of the temple, beside two-and-twenty thousand oxen, king Solomon sacrificed an hundred and twenty thousand sheep: and the same is observable from the daily provision of his house; which was ten fat oxen,[9] twenty oxen out of the pastures, and a hundred sheep, beside roebuck, fallow deer and fatted fowls. Wherein notwithstanding, (if a punctual relation thereof do rightly inform us,) the Grand Seignior doth exceed: the daily provision of whose seraglio in the reign of Achmet, beside beeves, consumed[9] two hundred sheep, lambs and kids when they were in season one hundred, calves ten, geese fifty, hens two hundred, chickens one hundred, pigeons a hundred pair.

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[7] *Tamerlane.*] His true Scythian name was Temur-Can which all storyes corruptly and absurdlye call Tamberlane. —*Wr.*

From the best authorities it appears that the parentage here assigned to Timur Beg (Tamerlane) is erroneous. His father was Targuï, a chief of the tribe of Berlas, tributary to Jagatai, one of the sons of Jenghis- (or Chingis-) Khan. He was born at Sabz, a suburb of the city of Kesch. See *Biographie Universelle; Universal History; Lardner's Outlines of History.*

And therefore this mistake, concerning the noble Tamerlane, was like that concerning Demosthenes, who is said to be the son of a blacksmith, according to common conceit, and that handsome expression of Juvenal;

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[8] *sheep.*] Sir Wm. Jorden, of Wiltes, in the plaines, aspired to come to the number of 20,000: but with all his endeavor could never bring them beyond 18,000. He lived since 1630.—*Wr.*

[9] *oxen, &c.*] That is, in the yeare, of beeves, 10,950, of sheep, 36,500.—*Wr.*

[1] *consumed, &c.*] Of sheep, lambs, kids, 109,500. And yet this cann raise noe greate wonder considering how manye mouthes were dayly fed at Solomon's tables, his concubines, his officers, his guards, and all sorts of inferior attendants on him and them: of which kindes the Grand Signeur mainteyns greater multitudes daylye in the Seraglio.—*Wr.*

> Quem pater ardentis massa fuligine lippus,
> A carbone et forcipibus, gladiosque parante
> Incude, et luteo Vulcano, et Rhetora misit.

Thus Englished by Sir Robert Stapleton.

> Whom's Father with the smoky forge half blind,
> From blows on sooty Vulcan's anvil spent
> In ham'ring swords, to study Rhet'rick sent.

But Plutarch, who writ his life, hath cleared this conceit, plainly affirming he was most nobly descended, and that this report was raised, because his father had many slavesthat wrought smith's work, and brought the profit unto him.[2]

CHAPTER XVII.

Of some others viz.,—of the poverty of Belisarius; of Fluctus Decumanus, or the tenth wave; of Parisatis that poisoned Satira by one side of a knife; of the Woman fed with poison that should have poisoned Alexander; of the Wandering Jew; of Pope Joan; of Friar Bacon's brazen head that spoke; of Epicurus.

WE are sad when we read the story of Belisarius, that worthy chieftain of Justinian; who after his victories over Vandals, Goths, Persians, and his trophies in three parts of the world, had at last his eyes put out by the emperor, and was reduced to that distress, that he begged relief on the highway, in that uncomfortable petition, *date obolum Belisario.*[3] And this we do not only hear in discourses, orations and themes, but find it also in the leaves of Petrus Crinitus, Volaterranus, and other worthy writers.

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[2] *And this mistake, &c.*] This paragraph was first added in the 2nd edition, except the translation, which was added in the 6th edition.

[3] *We are sad, &c.*] Lord Mahon, in his life of Belisarius, adopts this traditional account of him, as the most likely to be true: and gives at the close of the work his reasons at large.

But, what may somewhat consolate all men that honour virtue, we do not discover the latter scene of his misery in authors of antiquity, or such as have expressly delivered the stories of those times. For, Suidas is silent herein, Cedrenus and Zonaras, two grave and punctual authors, delivering only the confiscation of his goods, omit the history of his mendication. Paulus Diaconus goeth farther, not only passing over this act, but affirming his goods and dignities were restored. Agathius, who lived at the same time, declared he suffered much from the envy of the court: but that he descended thus deep into affliction, is not to be gathered from his pen. The same is also omitted by Procopius,* a contempory and professed enemy unto Justinian and Belisarius, who hath left an opprobrious book against them both.

And in this opinion and hopes we are not single, but Andreas Aniatus the civilian in his *Parerga*, and Franciscus de Corduba in his *Didascalia*, have both declaratorily confirmed the same, which is also agreeable unto the judgment of Nicolaus Alemannus, in his notes upon that bitter history of Procopius. Certainly sad tragical stories are seldom drawn within the circle of their verities; but as their relators do either intend the hatred or pity of the persons, so are they set forth with additional amplifications. Thus have some suspected it hath happened unto the story of Œdipus: and thus do we conceive it hath fared with that of Judas, who, having sinned above aggravation, and committed one villany which cannot be exasperated by all other, is also charged with the murder of his reputed brother, parricide of his father, and incest with his own mother,[4] as Florilegus

* Ἀνέκδοτα, or *Arcana Historia*.

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[4] *is also charged, &c.*] Surely yf these had been true, St. John, who cals him a theefe in plaine termes, would never have concealed such unparalled villanyes. They could not bee don after his treason, the halter followed that soe closelye; and had they been don before, neither could he have escaped the laws of Judæa, most severe against such hideous crimes; nor would the Sonne of God have endured the scandal of such a knowne miscreant, much lesse have chosen him among the twelve apostles. Judas deserved as much detestation as his unparaleld and matchless crimes could any way deserve. But noe cause of such detestation could be soe just, as to produce such prodigious fictions in the writings

or Matthew of Westminster hath at large related. And thus hath it perhaps befallen the noble Belisarius; who, upon instigation of the Empress, having contrived the exile, and very hardly treated Pope Serverius, Latin pens, as a judgment of God upon this fact, have set forth his future sufferings; and, omitting nothing of amplification, they have also delivered this: which notwithstanding Johannes the Greek makes doubtful, as may appear from his *Iambicks* in Baronius, and might be a mistake or misapplication, translating the affliction of one man upon another, for the same befell unto Johannes Cappadox*, contemporary unto Belisarius, and in great favour with Justinian; who being afterwards banished into Egypt, was fain to beg relief on the highway.*[5]

2 That *fluctus decumanus*,[6] or the tenth wave is greater and more dangerous than any other, some no doubt will be offended if we deny; and hereby we shall seem to contradict antiquity; for, answerable unto the literal and common acception, the same is averred by many writers, and plainly described by Ovid.

> Qui venit hic fluctus, fluctus supereminet omnes,
> Posterior nono est, undecimoque prior.

Which notwithstanding is evidently false; nor can it be made out by observation either upon the shóre or the ocean, as we have with diligence explored both. And surely in vain we expect a regularity in the waves of the sea, or in the particular motions thereof, as we may in its general reciprocations, whose causes are constant, and effects therefore correspondent. Whereas its fluctuations are but motions subservient; which winds, storms, shores, shelves, and every interjacency irregulates. With semblable reason we might expect a regularity in the winds; whereof though some be statary, some anniversary, and the rest do tend to determinate points of heaven, yet do the blasts and undulary breaths thereof maintain no certainty in their course, nor are they numerally feared by navigators.

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* *Procop. Bell, Persic,* I. Ἄρτον ἢ ὀβολὸν αἰτεῖσθαι.

of Christians: whome the recorded example of the Archangel Michael hath taught, not to rayle against, much less to belye the Divel himselfe. *Wr.*

[5] *and might be a mistake, &c.*] First added in 2nd edition.

[6] *Fluctus decumanus, &c.*] Ross says that our author, "troubles himself to no purpose in refuting the greatness of the tenth wave and tenth egg: for the tenth of anything was not counted the greatest, but the greatest of any thing was called the tenth; because that is the first perfect number, therefore any thing that was greater than another was called *decumanus*. So *porta decumana, limes decumanus, decumana pyra,* and *pomum decumanum* as well as *ovum decumanum.*" *Arc.* p. 178.

Mr. Forbes, in his *Oriental Memoirs*, describing the effect of the monsoon upon the ocean, says, "every *ninth* wave is observed to be more tremendous than the rest, and threatens to overwhelm the settlement of Anjengo.

The following passage occurs in *Dr. Henderson's Iceland*, vol. ii, p. 109, "Owing to a heavy swell from the ocean, we found great difficulty in landing, and were obliged to await the alternation of the waves, in the following order:—first three heavy surges broke with a tremendous dash upon the rocks; these were followed by six smaller ones, which just afforded us time to land; after which the three large ones broke again, and so on in regular succession."

"The typhon is a strong swift wind, that blows from all points, and is frequent in the Indian Seas; raising them, with its strong whirling about, to a great height, every *tenth* wave rising above the rest." *Loss of the Ship Fanny.*

Of affinity hereto is that conceit of *ovum decumanum;* so called, because the tenth egg is bigger than any other, according unto the reason alleged by Festus, *decumana ova dicuntur, quia ovum decimum majus nascitur.* For the honour we bear unto the clergy, we cannot but wish this true: but herein will be found no more of verity than in the other; and surely few will assent hereto without an implicit credulity, or Pythagorical submission unto every conception of number.

For surely the conceit is numeral, and, though in the sense apprehended, relateth unto the number of ten, as Franciscus Sylvius hath most probably declared. For, whereas amongst simple numbers or digits, the number of ten is the greatest: therefore whatsoever was the greatest in every kind, might in some sense be named from this number. Now, because also that which was the greatest, was metaphorically by some at first called *decumanus,* therefore whatsoever passed under this name, was literally conceived by others to respect and make good this number.

The conceit is also Latin; for the Greeks, to express the greatest wave, do use the number of three, that is, the word τρικυμία, which is a concurrence of three waves in one, whence arose the proverb, τρικυμία κακῶν, or a trifluctuation of evils, which Erasmus doth render, *malorum fluctus decumanus.* And thus although the terms be very different, yet are they made to signify the self-same thing: the number of ten to explain the number of three, and the single number of one wave the collective concurrence of more.

3. The poison of Parysatis,[7] reported from Ctesias by Plutarch in the life of Artaxerxes, (whereby, anointing a knife on the one side, and therewith dividing a bird, with the one half she poisoned Statira, and safely fed herself on the other,) was certainly a very subtle one, and such as our ignorance is well content it knows not. But surely we had discovered a poison that would not endure Pandora's box, could we be satisfied in that which for its coldness nothing could contain but an ass's hoof, and wherewith some report that Alexander the Great was poisoned. Had men derived so strange an effect from some occult or hidden qualities, they might have silenced contradiction; but ascribing it unto the manifest and open qualities of cold, they must pardon our belief; who perceive the coldest and most Stygian waters may be included in glasses; and by Aristotle, who saith that glass is the perfectest work of art, we understand they were not then to be invented.

And though it be said that poison will break a Venice glass,[8] yet have we not met with any of that nature. Were there a truth herein, it were the best preservative for princes and persons exalted unto such fears: and surely far better than divers now in use. And though the best of China dishes, and such as the emperor doth use, be thought by some of infallible virtue unto this effect, yet will they not, I fear, be able to elude the mischief of such intentions. And though also it be true, that God made all things double, and that if we look upon the works of the Most High, there are two and two, one against another; that one contrary hath another, and poison is not without a poison unto itself; yet hath the curse so far prevailed, or else our industry defected, that poisons are better known than their antidotes, and some thereof do scarce admit of any. And lastly, although unto every poison men have delivered many antidotes, and in every one is promised an equality unto its adversary, yet do we often find they fail in their effects: *moly* will not resist a weaker cup than that of Circe; a man may be poisoned in a Lemnian dish; without the miracle of John, there is no confidence in the earth of Paul; * and if it be meant that no poison could work upon him, we doubt the story, and expect no such success from the diet of Mithridates.

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[7] *The poison of Parysatis.*] This is treated as fabulous by Paris and Fonblanque, in the 20th vol. of whose *Medical Jurisprudence*, p. 131, &c. will be found a long article on poisons.

[8] *poison will break a Venice glass.*] Such is the venom of some spiders that they will crack a Venice glass, *as I have seen;* and Scaliger doth witness the same —however the doctor denies it.—*Ross*, *Arc.* 146.

A story there passeth of an Indian king, that sent unto Alexander a fair woman, fed with aconites and other poisons, with this intent, either by converse or copulation complexionally to destroy him. For my part, although the design were true, I should have doubted the success.[9] For, though it be possible that poisons may meet with tempers whereto they may become aliments, and we observe from fowls that feed on fishes, and others fed with garlick and onions, that simple aliments are not always concocted beyond their vegetable qualities; and therefore that even after carnal conversion, poisons may yet retain some portion of their natures; yet are they so refracted, cicurated,[1] and subdued, as not to make good their first and destructive malignities. And therefore [to] the stork that eateth snakes, and the stare that feedeth upon hemlock, [these] though no commendable aliments, are not destructive poisons.† For, animals that can innoxiously digest these poisons, become antidotal unto the poison digested. And therefore, whether their breath be attracted, or their flesh ingested, the poisonous relicks go still along with their antidote; whose society will not permit their malice to be destructive. And therefore also, animals that are not mischieved by poisons which destroy us, may be drawn into antidote against them; the blood or flesh of storks against the venom of serpents, the quail against hellebore, and the diet of starlings against the draught of Socrates.[2] Upon like grounds are some parts of animals alexipharmical unto others; and some veins of the earth, and also whole regions,[3] not only destroy the life of venomous creatures, but also prevent their productions. For though perhaps they contain the seminals of spiders and scorpions, and such as in other earths by suscitation[4] of the sun may arise unto animation; yet lying under command of their antidote, without hope of emergency they are poisoned in their matrix by powers easily hindering the advance of their originals, whose confirmed forms they are able to destroy.

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* *Terra Melitea.*

† [*to*] [*these*] these words seem indispensable to complete the sense evidently intended.

[9] *success.*] Hee that remembers how the Portuguez mixing with the women in the eastern islands founde such a hot overmatching complexion in them, that as the sun puts out a candle, soe itt quentcht their hot luste with the cold gripes of deathe; may easilye conceive, without an instance, what a quick effect such venemous spirits make by a contagious transfusion. Nor is there the same danger in eatinge of a duck that feeds on a toade, as in the loathsome copulation with those bodyes, whose touch is formidable as the fome of a mad dog, the touch wherof has been found as deadly to some, as the wounde of his teeth to others.—*Wr.*

[1] *cicurated.*] Tamed :—a *Brownism.*

5. The story of the wandering Jew is very strange, and will hardly obtain belief; yet is there a formal account thereof set down by Matthew Paris, from the report of an Armenian bishop,[5] who came into this kingdom about four hundred years ago, and had often entertained this wanderer at his table. That he was then alive, was first called Cartaphilus, was keeper of the judgment hall, whence thrusting out our Saviour with expostulation for his stay, was condemned to stay until his return; * was after baptized by Ananias, and by the name of Joseph; was thirty years old in the days of our

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* *Vade, quid moraris? Ego vado, tu autem morare donec venio.*

[2] *Socrates.*] That is henbane.—*Wr.*

[3] *whole regions.*] As Ireland and Crete neither breed nor brooke any venemous creature, which was a providence of God, considering that noe creature can bee worse then the natives themselves.—*Wr.*

Is this remark perfectly in keeping with the character of a Christian minister?

[4] *suscitation.*] Excitement.

[5] *Armenian Bishop.*] And that reporte of a wandering bishop is the ground of this absurd figment: for what's become of him ever since that time? But 't is noe wonder to finde a wandring Jew in all partes of the world: for what are all the nation but wanderers? Inmates to the world, and strangers noe where soe much as in their owne countrye.—*Wr.*

"This fable of the wandering Jew, once almost generally believed, probably suggested the fabrication of the tale of the wandering Gentile in later times: they are both included in a work, entitled *News from Holland*; or a short relation of two witnesses, now living, of the suffering and passion of our Saviour Jesus Christ: the one being a Gentile, the other a Jew," &c. in High Dutch. Amsterdam, 1647—London, 1648, 4to. See *Huttman's Life of Christ*, p. 67. The *Spaniard*, who wrote one of the most amusing of critiques on *John Bull*, under the title of *Don Manuel Alvarez Espriella's Letters from England*, has enlivened his narrative of the wandering Jew, with the following incident: "The Jew had awarded his preference to Spain above all the countries he had seen; as perhaps"—ingeniously remarks the soi-disant *Spanish* narrator, "a man would who had really seen all the world." But on being reminded that it was rather extraordinary that a Jew should prefer the country of the Inquisition, the ready rogue answered with a smile and a shake of the head, "that it was long before Christianity when he last visited Spain; and that he should not return till long after it was all over."

Saviour, remembered the saints that arose with him, the making of the apostles' creed, and their several peregrinations. Surely were this true, he might be an happy arbitrator in many Christian controversies; but must unpardonably condemn the obstinacy of the Jews, who can contemn the rhetorick of such miracles, and blindly behold so living and lasting conversions.

6.[8] Clearer confirmations must be drawn for the history of Pope Joan, who succeeded Leo the Fourth, and preceded Benedict the Third, than many we yet discover. And since it is delivered with *aiunt* and *ferunt* by many; since the learned Leo Allatius hath discovered * that ancient copies of Martinus Polonus, who is chiefly urged for it, had not this story in it; since not only the stream of Latin historians have omitted it, but Photius the patriarch, Metrophanes Smyrnæus, and the exasperated Greeks have made no mention of it, but conceded Benedict the Third to be successor unto Leo the Fourth; he wants not grounds that doubts it.[7]

Many things historical, which seem of clear concession, want not affirmations and negations, according to divided pens: as is notoriously observable in the story of Hildebrand, or Gregory the Seventh, repugnantly delivered by the imperial and papal party. In such divided records, partiality hath much depraved history, wherein if the equity of the reader do not correct the iniquity of the writer, he will be much confounded with repugnancies, and often find, in the same person, Numa and Nero. In things of this nature moderation must intercede; and so charity may hope that Roman readers will construe many passages in Bolsec, Fayus, Schlusselberg, and Cochlæus.

7. Every ear is filled with the story of Friar Bacon, that made a brazen head to speak these words, *time is*.[8] Which

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* *Confutatio fabulæ de Joanna Papissa cum Nibusio.*

[6].] The remainder of the chapter was first added in the 2nd edition.

[7] *the history of Pope Joan.*] Not only the final catastrophe of this lady's career, as recorded in the well-known Latin line, "*Papa, pater patrum, peperit Papissa papillum,*"—but even her very existence itself seems now to be universally rejected by the best authorities, Protestant as well as Catholic, as a fabrication from beginning to end.

[8] *a brazen head.*] This ridiculous story was originally imputed, not to Roger Bacon, but to Robert Grosseteste, Bishop of Lincoln.

thought here want not the like relations, is surely too literally received, and was but a mystical fable concerning the philosopher's great work, wherein he eminently laboured: implying no more by the copper-head, than the vessel wherein it was wrought, and by the words it spake, than the opportunity to be watched, about the *tempus ortus*, or birth of the mystical child, or philosophical king of Lullius; the rising of the *terra foliata* of *Arnoldus*, when the earth, sufficiently impregnated with the water, ascendeth white and splendent. Which not observed, the work is irrecoverably lost, according to that of Petrus Bonus: *Ibi est operis perfectio aut annihilatio; quoniam ipsâ die, immo horâ, oriuntur elementa simplicia depurata, quæ egent statim compositione, antequam volent ab igne.**

Now letting slip this critical opportunity, he missed the intended treasure, which had he obtained, he might have made out the tradition of making a brazen wall about England: that is, the most powerful defence, and strongest fortification which gold could have effected.

8. Who can but pity the virtuous Epicurus, who is commonly conceived to have placed his chief felicity in pleasure and sensual delights, and hath therefore left an infamous name behind him? How true, let them determine who read that he lived seventy years, and wrote more books than any philosopher but Chrysippus, and no less than three hundred, without borrowing from any author: that he was contented with bread and water; and when he would dine with Jove, and pretend unto epulation, he desired no other addition than a piece of Cytheridian Cheese: that shall consider the words of Seneca,[9] *Non dico, quod plerique nostrorum, sectam Epicuri flagitiorum magistrum esse: sed illud dico, male audit, infamis est, et immerito:* or shall read his life, his epistles, his Testament in *Laërtius*, who plainly names them calumnies, which are commonly said against them.

The ground hereof seems a misapprehension of his opinion, who placed his felicity not in the pleasures of the body, but the mind; and tranquillity thereof, obtained by wisdom and virtue, as is clearly determined in his epistle unto Menæceus. Now how this opinion was first traduced by the Stoicks, how it afterwards became a common belief, and so taken up by authors of all ages, by Cicero, Plutarch, Clemens, Ambrose, and others, the learned pen of Gassendus hath discovered.*[1]

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* *Margarita pretiosa.*

[9] *That shall consider the words of Seneca.*] That is, "let them determine the words of Seneca, &c."

CHAPTER XVIII.

More briefly of some others, viz: that the Army of Xerxes drank whole Rivers dry; that Hannibal eat through the Alps with Vinegar; of Archimedes his burning the Ships of Marcellus; of the Fabii that were all slain; of the Death of Æschylus; of the Cities of Tarsus and Anchiale built in one day; of the great Ship Syracusia or Alexandria; of the Spartan Boys.

1. Other relations there are, and those in very good authors, which though we do not positively deny, yet have they not been unquestioned by some, and at least as improbable truths have been received by others. Unto some it hath seemed incredible what Herodotus reporteth of the great army of Xerxes, that drank whole rivers dry. And unto the author himself it appeared wondrous strange, that they exhausted not the provision of the country, rather than the waters thereof. For as he maketh the account, and Buddeus *de Asse* correcting their miscompute of Valla delivereth it, if every man of the army had had a *chenix* of corn a day, that is, a

* *De vita et moribus Epicuri.*

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[1] *Who can but pity, &c.*] Ross is unmerciful in his reprobation of our author's defence of Epicurus. Yet some of those who were among the opponents of that philosopher's doctrines, for example Cicero, Plutarch, and Seneca, have awarded him, in reference to the particular charges here spoken of, the same acquittal which Browne has pronounced.

sextary and half, or about two pints and a quarter, the army had daily expended ten hundred thousand and forty medimna's, or measures containing six bushels.[2] Which rigthly considered, the Abderites had reason to bless the heavens, that Xerxes eat but one meal a day, and Pythius his noble host, might with less charge and possible provision entertain both him and his army; and yet may all be salved, if we take it hyperbolically, as wise men receive that expression in Job, concerning Behemoth or the elephant, "Behold, he drinketh up a river and hasteth not; he trusteth that he can draw up Jordan into his mouth."

2. That Hannibal ate or brake through the Alps with vinegar may be too grossly taken, and the author of his life annexed unto Plutarch, affirmeth only he used this artifice upon the tops of some of the highest mountains. For as it is vulgarly understood, that he cut a passage for his army through those mighty mountains, it may seem incredible, not only in the greatness of the effect, but the quantity of the efficient, and such as behold them may think an ocean of vinegar too little for that effect.[3] 'T was a work indeed rather to be expected

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[2] *bushels.*] But the wonder is not soe much how they could consume soe much corne, as where they could have it soe sodenly. But it seemes the learned author heere mistooke his accompte. For 1,000,000 quarts, (allowing for every one in his army a quarte, and 16 quartes to a bushell), amount to noe more then 62,499 bushels, or 10,416 medimnas, which would not loade 1000 wagons, a small baggage for so great an army not to be wondered at.—*Wr.*

[3] *an ocean, &c.*] There needed not more than some few hogsheads of vinegar, for having hewed downe the woods of firr growing there, and with the huge piles thereof calcined the tops of some cliffes which stood in his waye; a small quantity of vinegar poured on the fired glowing rocks would make them cleave in sunder, as is manifest in calcined flints, which being often burned, and as often quentcht in vinegar, will in fine turne into an impalpable powder, as is truly experimented, and is dayly manifest in the lime kilnes.—*Wr.*

Dr. Mc'Keever, in a paper in the 5th vol. of the *Annals of Philosophy, N. S.* discusses this question, and arrives at the conclusion, that, in all probability, the expansive operation of the fire on the water which had been percolating through the pores and fissures of the rocks, occasioned the detachment of large portions of it by explosion, just as masses of rock are frequently detached from cliffs, and precipitated into adjoining vallies, by a similar physical cause. Dr. M. notices the annual disruption of icebergs in the Polar Seas, on the return of summer, as a phenomenon bearing considerable analogy to the preceding. Mr. Brayley supposes that Hannibal might have used vinegar to dissolve partially a particular mass of limestone, which might impede his passage through some narrow pass. Dr. M. suggests that he might attribute to the vinegar and fire what the latter actually effected by its action on the water, and would have effected just as well without the vinegar. But perhaps after all the only vinegar employed might be pyroligneous acid, produced from the wood by its combination, without any intention on the part of Hannibal, though its presence would very naturally have been attributed to design by the ignorant spectators of his operations, which, on from earthquakes and inundations, than any corrosive waters, and much condemneth the judgment of Xerxes, that wrought through Mount Athos with mattocks.

3. That Archimedes burnt the ships of Marcellus, with speculums of parabolical figures, at three furlongs, or as some will have it, at the distance of three miles, sounds hard unto reason and artificial experience, and therefore justly questioned by Kircherus, who after long enquiry could find but one made by Manfredus Septalius * that fired at fifteen paces. And therefore more probable it is that the ships were nearer the shore or about some thirty paces, at which distance notwithstanding the effect was very great. But whereas men conceive the ships were more easily set on flame by reason of the pitch about them, it seemeth no advantage; since burning glasses will melt pitch or make it boil, not easily set it on fire.

4. The story of the Fabii, whereof three hundred and six marching against the Veientes were all slain, and one child alone to support the family remained, is surely not to be paralleled, nor easy to be conceived, except we can imagine that of three hundred and six, but one had children below the service of war, that the rest were all unmarried, or the wife but of one impregnated.[4]

5. The received story of Milo, who by daily lifting a calf, attained an ability to carry it being a bull, is a witty conceit, and handsomely sets forth the efficacy of assuefaction. But surely the account had been more reasonably placed upon some person not much exceeding in strength, and such a one as without the assistance of custom could never have performed that act, which some may presume that Milo, without precedent, artifice, or any other preparative, had strength enough to perform. For as relations declare, he was the most pancratical man of Greece, and as Galen reporteth, and Mercurialis in his *Gymnastics* representeth, he was able to persist erect upon an oiled plank, and not to be removed by

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* *De luce et umbra.*

this theory, may be supposed to have been conducted on a full knowledge of the effects they would produce, in the explosive removal of the obstacles which obstructed his advance.

[4] 3.] This and the following paragraph, as well as § 12, were first added in the 2nd edition.

the force or protrusion of three men. And if that be true which Athenæus reporteth, he was little beholding to custom for his ability; for in the Olympic games, for the space of a furlong, he carried an ox of four years[5] upon his shoulders, and the same day he carried it in his belly; for as it is there delivered, he eat it up himself. Surely he had been a proper guest at Grandgousier's feast, and might have matched his throat that eat six pilgrims for a salad.*

6. It much disadvantageth the panegyrick of Synesius,† and is no small disparagement unto baldness, if it be true what is related by Ælian concerning Æschylus, whose bald pate was mistaken for a rock, and so was brained by a tortoise which an eagle let fall upon it. Certainly it was a very great mistake in the perspicacy of that animal. Some men critically disposed, would from hence confute the opinion of Copernicus, never conceiving how the motion of the earth below, should not wave him from a knock perpendicularly directed from a body in the air above.

7. It crosseth the proverb, and Rome might well be built in a day, if that were true which is traditionally related by Strabo; that the great cities, Anchiale and Tarsus,[6] were built by Sardanapalus, both in one day, according to the inscription of his monument, *Sardanapalus Anacyndaraxis filius, Anchialem et Tarsum unâ die ædificavi, tu autem*

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* *In Rabelais.*

† Who writ in the praise of baldness. An argument or instance against the motion of the earth.

[5] *an ox, &c.*] An ox of 4 years in Greece did not æqual one with us of 2; whereof having taken out the bowels and the heade and the hide, and the feete and all that which they call the offall, we may well thinke the four quarters, especially yf the greate bones were all taken out, could not weigh much above a 100lb. weight. Now the greater wonder is how he could eate soe much, then to carry itt. Itt is noe news for men in our dayes to carry above 400 weight; but few men can eate 100 weight, excepting they had such a gyant-like bulke as hee had.—*Wr.*

[6] *Anchiale and Tarsus.*] A single fortress, as that of Babell, is called a city. Genes. xi, 4. In imitation whereof, built by Nimrod, the first Assyrian Monarch, itt is possible that Sardanapalus, the last Monarch, but withall the greatest in power, and purse, and people, might easily raise such a fortresse in a daye, having first brought all the materials in place, and if one, he might as well have built ten in several places. Now these cityes were about 400 hundred miles distant, Tarsus on the banke of Sinus, Issicus in Cilicia, and Anchiala on the banke of the Euxine Sea in Pontus, both border townes, dividing Natolia on the lesser Asia from the greater Asia, and were the 2 frontire townes of the Assyrian Monarchie, and were built for the ostentation of his vast spreading dominions, and both in a day raisd, for ostentation of his power.—*Wr.*

hospes, ede, lude, bibe, &c. Which if strictly taken, that is, for the finishing thereof, and not only for the beginning; for an artificial or natural day, and not one of Daniel's weeks, that is, seven whole years; surely their hands were very heavy that wasted thirteen years in the private house of Solomon. It may be wondered how forty years were spent in the erection of the temple of Jerusalem, and no less than an hundred in that famous one of Ephesus. Certainly it was the greatest architecture of one day, since that great one of six; an art quite lost with our mechanics, a work not to be made out, but like the walls of Thebes, and such an artificer as Amphion.

8. It had been a sight only second unto the ark to have beheld the great Syracusia, or mighty ship of Hiero, described in Athenæus; and some have thought it a very large one, wherein were to be found ten stables for horses, eight towers, besides fish ponds, gardens, tricliniums, and many fair rooms paved with agath and precious stones. But nothing was impossible unto Archimedes, the learned contriver thereof; nor shall we question his removing the earth, when he finds an immoveable base to place his engine unto it.

9.[7] That the Pamphilian sea gave way unto Alexander, in his intended march toward Persia, many have been apt to credit, and Josephus is willing to believe, to countenance the passage of the Israelites through the Red Sea. But Strabo, who writ before him, delivereth another account; that the mountain climax, adjoining to the Pamphilian sea, leaves a narrow passage between the sea and it; which passage at an ebb and quiet sea all men take; but Alexander coming in the winter, and eagerly pursuing his affairs, would not wait for the reflux or return of the sea; and so was fain to pass with his army in the water, and march up to the navel in it.

10. The relation of Plutarch, of a youth of Sparta that suffered a fox, concealed under his robe, to tear out his bowels before he would, either by voice or countenance, betray his theft; and the other, of the Spartan lad, that with the same resolution suffered a coal from the altar to burn his arm; although defended by the author that writes his life, is

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[7] 9.] First added in the 6th edition.

I perceive mistrusted by men of judgment, and the author, with an *aiunt*, is made to salve himself. Assuredly it was a noble nation that could afford an hint to such inventions of patience, and upon whom, if not such verities, at least such verisimilities of fortitude were placed. Were the story true, they would have made the only disciples for Zeno and the Stoicks, and might perhaps have been persuaded to laugh in Phalaris his bull.

11. If any man shall content his belief with the speech of Balaam's ass, without a belief of that of Mahomet's camel, or Livy's ox; if any man makes a doubt of Giges' ring in Justinus, or conceives he must be a Jew that believes the sabbatical river[8] in Josephus; if any man will say he doth not apprehend how the tail of an African wether out-weigheth the body of a good calf, that is, an hundred pounds, according unto Leo Africanus,[9] or desires, before belief, to behold such a creature as is the ruck[1] in Paulus Venetus,—for my part I shall not be angry with his incredulity.

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[8] *the sabbatical river.*] A singular discrepancy exists on this point between the statement of Josephus and that of Pliny. The former (*De Bell. Jud.* lib. vii, c. 24) saying that the river flows on sabbath, but rests on every other day;—while Pliny (*Hist. Nat.* xxxi, § 13) relates that it flows most impetuously all the week, but is dry on the sabbath. All the Jewish rabbinical authorities adopt the latter as the fact, in opposition to Josephus, whose account is so singular, that several of his commentators have not hesitated to suppose a transposition to have occurred in his text, producing the error in question. Our poetical Walton alludes to this marvellous river, but he has adopted the proposed correction, citing Josephus as his authority, but giving the Plinian version of the story, doubtless thinking it most fit that the river should allow the angler to repose on Sunday, and afford him, during the six other days, "choice recreation." The classical authorities declare that the river has long since vanished. But recently, a learned Jew, Rabbi Edrehi, has announced a work, asserting the discovery of the lost river, but affirming it to be a *river of sand!* This is apt to recal to mind an old proverb about "twisting a *rope* of sand!"

As for the "marvellous" of the story, it strikes me, that—only grant the existence of *water-corn-mills* in the time of the Emperor Titus, (which it is not for me to deny,)—and the whole is perfectly intelligible. The mills had been at work during the week, keeping up a head of water which had rushed along with a velocity (as Josephus describes it) sufficient to carry with it stones and fragments of rocks. On sabbath-day the miller "shut down," and let all the water run through, by which means the river was laid almost dry. What should hinder, in these days of hypothesis, our adopting so ready and *satisfactory* a solution?

[9] *Leo Africanus.*] What weights Leo Africanus meanes is doubtfull. Some have been brought hither, that being fatted, coulde scarcely carye their tayles: though I know not, why nature, that hung such a weight behinde, should not enable the creature to drag itt after him by the strength of his backe, as the stag to carye as great a weight on his heade only.—*Wr.*

[1] *ruck.*] Surely the ruc was but one, like the phœnix, but revives not like the phœnix.—*Wr.*

The roc of the Arabian Nights, conjectured to have originated in the American condor.

12. If any one shall receive, as stretched or fabulous accounts, what is delivered of Cocles, Scævola, and Curtius, the sphere of Archimedes, the story of the Amazons, the taking of the city of Babylon, not known to some therein in three days after, that the nation was deaf which dwelt at the fall of Nilus, the laughing and weeping humour of Heraclitus and Democritus, with many more, he shall not want some reason and the authority of Lancelotti.*

13. If any man doubt of the strange antiquities delivered by historians, as of the wonderful corpse of Antæus untombed a thousand years after his death by Sertorius; whether there were no deceit in those fragments of the ark, so common to be seen in the days of Berosus; whether the pillar which Josephus beheld long ago, Tertullian long after, and Bartholomeus de Saligniaco and Bochardus long since, be the same with that of Lot's wife; whether this were the hand of Paul, or that which is commonly shewn the head of Peter; if any doubt, I shall not much dispute with their suspicions. If any man shall not believe the turpentine tree betwixt Jerusalem and Bethlehem, under which the virgin suckled our Saviour as she passed between those cities; or the fig-tree of Bethany, shewed to this day, whereon Zaccheus ascended to behold our Saviour; I cannot tell how to enforce his belief, nor do I think it requisite to attempt it. For, as it is no reasonable proceeding to compel a religion, or think to enforce our own belief upon another, who cannot without the concurrence of God's Spirit have any indubitable evidence of things that are obtruded, so is it also in matters of common belief; whereunto neither can we indubitably assent, without the co-operation of our sense or reason, wherein consist the principles of persuasion. For, as the habit of faith in divinity is an argument of things unseen, and a stable assent unto things inevident, upon authority of the Divine Revealer,—so the belief of man, which depends upon human testimony, is but a staggering assent unto the affirmative, not without some fear of the negative. And as there is required the Word of God, or infused inclination unto the one, so must the actual sensa-

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* *Farfalloni Historici.*

tion of our senses,[2] at least the non-opposition of our reasons, procure our assent and acquiescence in the other. So when Eusebius, an holy writer, affirmeth, there grew a strange and unknown plant near the statue of Christ, erected by his hæmorrhoidal patient in the gospel, which attaining unto the hem of his vesture, acquired a sudden faculty to cure all diseases; although,[3] he saith, he saw the statue in his days, yet hath it not found in many men so much as human belief. Some believing, others opinioning, a third suspecting it might be otherwise. For indeed, in matters of belief, the understanding assenting unto the relation, either for the authority of the person, or the probability of the object, although there may be a confidence of the one, yet if there be not be a satisfaction in the other, there will arise suspensions; nor can we properly believe until some argument of reason, or of our proper sense, convince or determine our dubitations.

And thus it is also in matters of certain and experimented truth. For if unto one that never heard thereof, a man should undertake to persuade the affections of the loadstone, or that jet and amber attract straws and light bodies, there would be little rhetorick in the authority of Aristotle, Pliny, or any other. Thus although it be true that the string of a lute or viol will stir upon the stroke of an unison or diapason in another of the same kind; that alcanna being green, will suddenly infect the nails and other parts with a durable red; that a candle out of a musket will pierce through an inch board, or an urinal force a nail through a plank; yet can few or none believe thus much without a visible experiment. Which notwithstanding falls out more happily for knowledge; for these relations leaving unsatisfaction in the hearers, do stir up ingenuous dubiosities unto experiment, and by an exploration of all, prevent delusion in any.

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[2] *senses.*] And that this was not wanting to make good the storye in parte, is evident in the very next section.—*Wr.*

[3] *although, &c.*] Why may wee not beleave that there was such a plant at the foote of that statue upon the report of the ecclesiastick story, publisht in the third ecumenical council at Ephesus, as wel as the statue itselfe upon the report of Eusebius at the first ecumenical council at Nice: who sayes he saw the statue, but repeates the storye of the plant out of Africanus, who lived within the 200th yeare of Christ: and out of Tertullian, who lived within 120 yeares after this miracle was wrought upon the hæmorroidall that erected the statue. For though the plant lived not till his time, yet itt was as fresh in memorye in the church as when it first grewe.—*Wr.*

CHAPTER XIX.

Of some Relations whose truth we fear.

LASTLY, as there are many relations whereto we cannot assent, and make some doubt thereof, so there are divers others whose verities we fear, and heartily wish there were no truth therein.

1. It is an insufferable affront unto filial piety, and a deep discouragement unto the expectation of all aged parents, who shall but read the story of that barbarous queen, who, after she had beheld her royal parent's ruin, lay yet in the arms of his assassin, and caroused with him in the skull of her father. For my part, I should have doubted the operation of antimony, where such a potion would not work; 't was an act, methinks, beyond anthropophagy, and a cup fit to be served up only at the table of Atreus.[4]

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[4] *barbarous queen, &c.*] If this relates to the story of Alboin, it is not correctly noticed. I give it from *Lardner's Cyclopædia;—Europe during the Middle Ages.*

"Few dynasties have been so unfortunate as that of the Lombards. Alboin, its founder, had not wielded the sceptre four years, when he became the victim of domestic treason: the manner is worth relating, as characteristic of the people. During his residence in Pannonia, this valiant chief had overcome and slain Cunimond, king of the Gepidæ, whose skull, in conformity with a barbarous custom of his nation, he had fashioned into a drinking cup. Though he had married Rosamond, daughter of Cunimond, in his festive entertainments he was by no means disposed to forego the triumph of displaying the trophy. In one held at Verona, he had the inhumanity to invite his consort to drink to her father, while he displayed the cup, and, for the first time, revealed its history in her presence. His vanity cost him dear: if she concealed her abhorrence, it settled into a deadly feeling. By the counsel of Helmich, a confidential officer of the court, she opened her heart to Peredeo, one of the bravest captains of the Lombards; and when she could not persuade him to assassinate his prince, she had recourse to an expedient, which proves, that in hatred as in love, woman knows no measure. Personating a mistress of Peredeo, she silently and in darkness stole to his bed; and when her purpose was gained, she threatened him with the vengeance of an injured husband, unless he consented to become a regicide. The option was soon made: accompanied by Helmich, Peredeo was led to the couch of the sleeping king, whose arms had been previously removed; and, after a short struggle, the deed of blood was consummated. The justice of heaven never slumbers: if Alboin was thus severely punished for his inhumanity, fate avenged him of his murderers. To escape the suspicious enmity of the Lombards, the queen and Helmich fled to Ravenna, which at this period depended on the Greek empire. There the exarch, coveting the treasures which she had brought from Verona, offered her his hand, on condition she removed

2. While we laugh at the story of Pygmalion, and receive as a fable that he fell in love with a statue; we cannot but fear it may be true, what is delivered by Herodotus concerning the Egyptian pollinctors, or such as anointed the dead; that some thereof were found in the act of carnality with them. From wits that say 't is more than incontinency for Hylas to sport with Hecuba, and youth to flame in the frozen embraces of age, we require a name for this: wherein Petronius or Martial cannot relieve us. The tyranny of Mezentius * did never equal the vitiosity of this incubus, that could embrace corruption, and make a mistress of the grave; that could not resist the dead provocations of beauty,[5] whose quick invitements scarce excuse submission. Surely, if such depravities there be yet alive, deformity need not despair; nor will the eldest hopes be ever superannuated, since death hath spurs, and carcasses have been courted.

3. I am heartily sorry, and wish it were not true, what to the dishonour of Christianity is affirmed of the Italian; who after he had inveigled his enemy to disclaim his faith for the redemption of his life, did presently poiniard him, to prevent repentance, and assure his eternal death. The villany of this Christian exceeded the persecution of heathens, whose malice was never so longimanous † as to reach the soul of their enemies, or to extend unto an exile of their elysiums. And though the blindness of some ferities have savaged on the bodies of the dead, and been so injurious unto worms, as to disinter the bodies of the deceased, yet had they therein no design upon the soul; and have been so far from the destruction of that, or desires of a perpetual death, that for the satisfaction of their revenge they wish them many souls, and were it in their power would have reduced them unto life again. It is a great depravity in our

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* Who tied dead and living bodies together.

† Long-handed.

her companion. Such a woman was not likely to hesitate. To gratify one passion she had planned a deed of blood—to gratify another, her ambition, she presented a poisoned cup to her lover, in the bath. After drinking a portion, his suspicions were kindled, and he forced her, under the raised sword, to drink the rest. The same hour ended their guilt and lives. Peredeo, the third culprit, fled to Constantinople, where a fate no less tragical awaited him."

[5] *dead provocations of beauty.*] Provocations of dead beauty.—*Wr.*

natures, and surely an affection that somewhat savoureth of hell, to desire the society, or comfort ourselves in the fellowship of others that suffer with us; but to procure the miseries of others in those extremities, wherein we hold an hope to have no society ourselves, is methinks a strain above Lucifer, and a project beyond the primary seduction of hell.

4. I hope it is not true, and some indeed have probably denied, what is recorded of the monk that poisoned Henry the Emperor, in a draught of the holy Eucharist. 'T was a scandalous wound unto the Christian religion, and I hope all Pagans will forgive it, when they shall read that a Christian was poisoned in a cup of Christ, and received his bane in a draught of his salvation.[6] Had he believed transubstantiation, he would have doubted the effect; and surely the sin itself received an aggravation in that opinion. It much commendeth the innocency of our forefathers, and the simplicity of those times, whose laws could never dream so high a crime as parricide: whereas this at the least may seem to out-reach that fact, and to exceed the regular distinctions of murder. I will not say what sin it was to act it; yet may it seem a kind of martyrdom to suffer by it. For, although unknowingly, he died for Christ his sake, and lost his life in the ordained testimony of his death. Certainly had they known it, some noble zeals would scarcely have refused it; rather adventuring their own death, than refusing the memorial of his.[7]

Many other accounts like these we meet sometimes in history, scandalous unto Christianity, and even unto humanity; whose verities not only, but whose relations, honest minds do deprecate. For of sins heteroclital, and such as want either name or precedent, there is oft-times a sin even in their histories. We desire no records of such enormities; sins should be accounted new, that so they may be esteemed monstrous.

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[6] *'Twas a scandalous wound, &c.*] It is said that Ganganelli, Pope Clement xiv, was thus dispatched by the Jesuits. In the *Universal Magazine* for 1776, vol. 5, p. 215, occurs an account of that poisoning of the sacramental wine at Zurich, by a grave digger, by which a number of communicants lost their lives.

[7] *Than refusing, &c.*] Itt had been a very foolish zeale, and little less than selfe murder to have taken that sacramentall, wherin they had knowne poyson to have been put. The rejection of that particular cup had not been any refusal of remembring his death. This therefore needs an index expurgatorius, and a deleatur, and soe wee have accordingly canceld itt.—*Wr.*

They amit of monstrosity as they fall from their rarity; for men count it venial to err with their forefathers, and foolishly conceive they divide a sin in its society. The pens of men may sufficiently expatiate without these singularities of villany; for, as they increase the hatred of vice in some, so do they enlarge the theory of wickedness in all. And this is one thing that may make latter ages worse than were the former; for, the vicious examples of ages past poison the curiosity of these present, affording a hint[8] of sin unto seducible spirits, and soliciting those unto the imitation of them, whose heads were never so perversely principled as to invent them. In this kind we commend the wisdom and goodness of Galen, who would not leave unto the world too subtle a theory of poisons; unarming thereby the malice of venomous spirits, whose ignorance must be contented with sublimate and arsenic. For, surely there are subtler venenations, such as will invisibly destroy, and like the basilisks of heaven. In things of this nature silence commendeth history: 't is the veniable part of things lost; wherein there must never rise a Pancirollus,* nor remain any register, but that of hell.

And yet, if, as some Stoicks opinion, and Seneca himself disputeth, these unruly affections that make us sin such prodigies, and even sins themselves be animals, there is a history of Africa and story of snakes in these. And if the transanimation of Pythagoras, or method thereof were true, that the souls of men transmigrated into species answering their former natures; some men must surely live over many serpents, and cannot escape that very brood, whose sire Satan entered. And though the objection of Plato should take place, that bodies subjected unto corruption must fail at last before the period of all things, and growing fewer in number must leave some souls apart unto themselves, the spirits of many long before that time will find but naked habitations;

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* Who writ *De antiquis deperditis*, or of inventions lost.

[8] *Affording, &c.*] Itt is noe doubte but that some casuists have much to answere for that sinn of curiosity, who by proposing some quæstions to the confitents teach them to knowe some sinns wherof they would never have thought.—*Wr.*

and, meeting no assimilables wherein to re-act their natures, must certainly anticipate such natural desolations.

Primus sapientiæ gradus est, falsa intelligere.—LACTANT.

END OF PSEUDODOXIA EPIDEMICA.

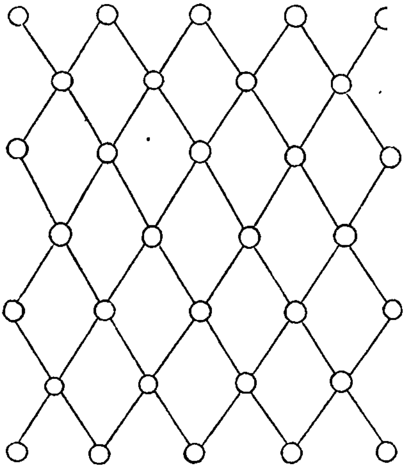
The Garden of Cyrus.

OR, THE QUINCUNCIAL LOZENGE, OR
NET-WORK PLANTATIONS OF THE ANCIENTS, ARTIFICIALLY, NATURALLY, MYSTICALLY,
CONSIDERED.

SEVENTH EDITION.

WITH NOTES, AND VARIOUS READINGS FROM MSS. IN THE BRITISH MUSEUM.

ORIGINALLY PUBLISHED IN
1658.



* *Quid Quincunce speciosius,*
qui, in quamcunque partem spectaveris, rectus est?—QUINCTILIAN.

EDITOR'S PREFACE

TO THE

GARDEN OF CYRUS, HYDRIOTAPHIA, AND BRAMPTON URNS.

In arranging the present edition, I have endeavoured to preserve the order in which the several works were first published; and at the same time to bring together, as far as possible, similar subjects. To secure these objects, I have placed the *Hydriotaphia* between the *Garden of Cyrus* and the *Brampton Urns;* though in the first edition of the two former pieces, the author placed the *Garden of Cyrus* last; as he has noticed in his preface to it.

That edition was published in 1658, in sm. 8vo.: the title, epistles (to both discourses), and a plate of four urns, occupy a sheet, on the last page of which is the plate, facing the first page of the work, which extends to thirteen sheets—208 pp. viz. *Hydriotaphia,* 84 pp.—*Garden of Cyrus,* 124 pp. the first four containing the plate and title, with two blanks, and the last six pp. containing "*The Stationer to the Reader,*" "*Books printed for Hen. Broome,*" and a label, "Dr. Browne's Garden of Cyrus," in large letters printed down the middle of the page, and evidently intended to be pasted at the back of the volume. This edition is not commonly met with perfect.

The Second edition is that which appeared with the Fourth edition of Pseudodoxia, under the direction of its author; who has prefixed to the volume two pages of "*Marginal Illustrations omitted, or to be added to the Discourses of Urn-burial, and of the Garden of Cyrus;*" with "*Errata in the Enquiries,*" and "*in the discourses annexed.*"

The Third edition, in double columns, was printed with the sixth of Religio Medici, as an addition to the third* of

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* Erroneously called the *fourth,* in my preface to *Religio Medici,* vol. ii, p. x.

Pseudodoxia, in folio. But one title-page only accompanied the three pieces: viz. *Religio Medici; whereunto is added a Discourse of the Sepulchrall Urnes, lately found in Norfolk. Together with the Garden of Cyrus, or the Quincunciall Lozenge, or Net-work Plantations of the Ancients, Artificially, Naturally, Mystically considered. With Sundry Observations. By Thomas Brown, Doctour of Physick. Printed for the Good of the Commonwealth.* No date. That the later edition of the Tracts should have accompanied the *earlier* of the two editions of Pseudodoxia, published in 1658, requires explanation. It appears that in 1658 Ekins published the *third* edition, in folio, and Dod the *fourth*, with a corrected reprint of the two "Discourses," in 4to. To meet this, Ekins printed the very inferior edition, just described, of Religio Medici, &c. and brought out his folio, with a fresh title, dated 1659.

The Fourth edition of the two Discourses was printed with the fifth of Pseudodoxia, in 1669. But, most absurdly, the "Marginal Illustrations, &c." instead of being incorporated in the edition, are reprinted as a table, and not even the pages altered to suit the edition!

The (Fifth) edition was published by Abp. Tenison, with the "Works" in folio, 1686.

In 1736, Curl reprinted, (in an 8vo. tract of 60 pages, with 6 pp. of Epistles, &c.) the Hydriotaphia, Brampton Urns, and the ninth of the Miscellany Tracts, "*Of Artificial Hills, &c.*" followed by the first three chapters only, (unless my copy is imperfect,) of the Garden of Cyrus—in 40 pages—with 6 pp. of Title and Epistle Dedicatory. This is called the *Fourth edition,* but is in fact the Sixth.

Of the Garden of Cyrus, the present is the Seventh edition; but of Hydriotaphia it is the Eighth; for Mr. Croseley included this latter discourse with *Letter to a Friend* and *Museum Clausum.* He has altered the division:—calling the first chapter *Introduction,* and the remaining chapters *Sections* 1, 2, 3, 4. I observe, too, that he has, in several instances, altered the phraseology, in his neat little selection of Browne's Tracts, published at Edinburgh in 1822.

The First edition of the account of the Brampton Urns was published with the Posthumous Works, in 1712; the Second by Curl (as just mentioned) in 1736. The present is the Third.

I have not met with any MS. copy either of Hydriotaphia or the Garden of Cyrus, though many passages occur in *MSS. Sloan.* 1847, 1848, and 1882—which were evidently written for these discourses. Several of the variations they exhibit, from the printed text, are pointed out in the notes.

Of the Brampton Urns I have met with three copies, differing from each other and more or less complete, in the British Museum and Bodleian Libraries, namely, BRIT. MUS. *MS. Sloan.* No. 1862, p. 26; No. 1869, p. 60;—and BIBL. BODL. *MS. Rawlins.* 391;—from the first of which Curl's edition was (incorrectly) printed, and with all of which it has, in the present edition, been carefully collated.

I have modernized the spelling, and endeavoured to improve the pointing of the *Garden of Cyrus* and *Hydriotaphia*, as of all Browne's other works; but the phraseology, (as characteristick of the writer,) I have not thought it right, (except in very rare instances, and those acknowledged,) to touch. For this reason, I have even denied myself the adoption of several decided improvements, (though but slight alterations,) introduced by my friend Mr. Crossley, in the Hydriotaphia.

With respect to the *Brampton Urns*, which (like the *Miscellany Tracts*) never met his own eye in print, I have felt myself far more unfettered; and have used my own discretion as to a choice of various readings supplied by the several copies which I have found; selecting from them those which I preferred.

A few words will suffice respecting the notes attached to this edition. If any one object that a letter from Dr. Power to Sir Thomas, with his reply, ought to have appeared among the Correspondence, instead of being thrown into the form of notes,* my defence is, that, though *formally* "Correspondence," they are *substantially* "Notes and Illustrations," and those of the most interesting kind. Dr. Power's letter is the work of an enthusiastick lover of the mysteries of natural science; and Sir Thomas's reply places him in the new light of his own commentator. The *Garden of Cyrus* has, by general consent, been regarded as one of the most *fanciful* of his works. The most eminent even of his admirers have treated it as a mere sport of the imagination, "in the prosecution of which, he considers every production of art and nature, in which he could find any *decussation* or approaches to the form of a quincunx, and, as a man once resolved upon ideal discoveries, seldom searches long in vain, he finds his favourite figure in almost every thing;"—"quincunxes," as Coleridge says, "in heaven above, quincunxes in earth below, quincunxes in the mind of man, quincunxes in tones, in optic nerves, in roots of trees, in leaves, in every thing." * The increased attention, however, which modern naturalists have paid to the prevalence of certain numbers in the distribution of nature, and Mr. Macleay's persevering and successful advocacy of A QUINARY ARRANGEMENT would naturally lead an admirer of Browne to look at this work in a higher point of view than as a mere *jeu d'esprit.* How far, in short, has he anticipated in this work—as he certainly must be allowed to have done in the *Pseudodoxia,*—those who have conducted their inquiries in the midst of incomparably greater light and knowledge, and with the advantage of an immensely increased accumulation of facts and observations of every kind? For an answer to this question I refer to the notes of E. W. Brayley, Jun. Esq. especially at pp. 413, 423, 439, 446.

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* At page 405.

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* See *Blackwood's Edinburgh Magazine,* vol. vii, 169.

THE EPISTLE DEDICATORY.

TO MY WORTHY AND HONOURED FRIEND

NICHOLAS BACON, OF GILLINGHAM, ESQUIRE.[1]

HAD I not observed that purblind* men have discoursed well of sight, and some without issue,† excellently of generation; I, that was never master of any considerable garden, had not attempted this subject. But the earth is the garden of nature, and each fruitful country a paradise. Dioscorides made most of his observations in his march about with Antonius; and Theophrastus raised his generalities chiefly from the field.

Besides, we write no herbal, nor can this volume deceive you, who have handled the massiest‡ thereof: who know that

* Plempius, Cabeus, &c. † Dr. Harvey. ‡ *Besleri Hortus Eystetensis.*

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[1] *Nicholas Bacon, of Gillingham, Esq.*] Created a baronet, Feb. 7, 1661, by Charles II. His father was the sixth son of Sir Nicholas Bacon, who was created premier baronet of England, May 22, 1611, by James I, and was the eldest son of the Lord Keeper of Q. Elizabeth, and half-brother of Francis, Lord Bacon, the Lord Keeper's youngest son by a second marriage.

This gentleman was a man of letters, and a patron of learning; and intimately acquainted with Browne, several of whose *Miscellany Tracts* were addressed to him: as we are informed by Evelyn.—(See vol. iv, p. 121, *note* 1.) He is mentioned by Wood as having published a work of Dr. Thomas Lushington's, which had come into his hands in MS. from the author, entitled, *Logica Analytica, de Principiis, Regulis, et Usu Rationis rectæ*, lib. 3, Lond. 1650, 8vo.; and gave this as his motive:—"*Propter operis perfectionem, in quo nihil dictum, quod non statim probatum est, vel a principiis, primo et per se notis, vel a propositionibus inde demonstratis: deinde etiam propter ejus usum, vel fructum eximiam.*—*Wood's Athenæ*, by Bliss, iii, 530. He died in his 43rd year in 1666, leaving two sons, Sir Edmund and Sir Richard, who both succeeded to the Gillingham baronetcy; but, both dying *s. p.*, it became extinct.

three folios * are yet too little, and how new herbals fly from America upon us; from persevering enquirers, and hold † in those singularities, we expect such descriptions. Wherein England ‡ is now so exact, that it yields not to other countries.

We pretend not to multiply vegetable divisions by quincuncial and reticulate plants; or erect a new phytology. The field of knowledge hath been so traced, it is hard to spring any thing new. Of old things we write something new, if truth may receive addition, or envy will have any thing new; since the ancients knew the late anatomical discoveries, and Hippocrates the circulation.

You have been so long out of trite learning, that 't is hard to find a subject proper for you; and if you have met with a sheet upon this, we have missed our intention. In this multiplicity of writing, by and barren themes are best fitted for invention; subjects so often discoursed confine the imagination, and fix our conceptions unto the notions of fore-writers. Besides, such discourses allow excursions, and venially admit of collateral truths, though at some distance from their principals. Wherein if we sometimes take wide liberty, we are not single, but err by great example. §

He that will illustrate the excellency of this order, may easily fail upon so spruce a subject, wherein we have not affrighted the common reader with any other diagrams, than of itself; and have industriously declined illustrations from rare and unknown plants.

Your discerning judgment, so well acquainted with that study, will expect herein no mathematical truths, as well understanding how few generalities and *U finitas* || there are in nature; how Scaliger hath found exceptions in most universals of Aristotle and Theophrastus; how botanical maxims must have fair allowance, and are tolerably current, if not intolerably over-balanced by exceptions.

* *Bauhini Theatrum Botanicum.*

† My worthy friend M. Goodier, an ancient and learned botanist.

‡ As in London and divers parts, whereof we mention none, lest we seem to omit any.

§ *Hippocrates de superfœtatione, de dentitione.*

|| Rules without exceptions.[2]

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[2] *rules without exceptions.*] This is, no doubt, an allusion to the well known and invariable rule in prosody,—"Postremo, *U finita* producuntur *omnia*,"—of which Browne here (most characteristically) avails himself in a proverbial sense.

You have wisely ordered your vegetable delights, beyond the reach of exception. The Turks who past their days in gardens here, will have also gardens hereafter, and delighting in flowers on earth, must have lilies and roses in heaven. In garden delights 't is not easy to hold a mediocrity; that insinuating pleasure is seldom without some extremity. The ancients venially delighted in flourishing gardens; many were florists that knew not the true use of a flower; and in Pliny's days none had directly treated of that subject. Some commendably affected plantations of venomous vegetables, some confined their delights unto single plants, and Cato seemed to dote upon cabbage; while the ingenuous delight of tulipists, stands saluted with hard language, even by their own professors.*

That in this garden discourse, we range into extraneous things, and many parts of art and nature, we follow herein the example of old and new plantations, wherein noble spirits contented not themselves with trees, but by the attendance of aviaries, fish-ponds, and all variety of animals, they made their gardens the epitome of the earth, and some resemblance of the secular shows of old.

That we conjoin these parts of different subjects, or that this should succeed the other,[1] your judgment will admit without impute of incongruity; since the delightful world comes after death, and paradise succeeds the grave. Since the verdant state of things is the symbol of the resurrection, and to flourish in the state of glory, we must first be sown in corruption:—besides the ancient practice of noble persons, to conclude in garden-graves, and urns themselves of old to be wrapt up with flowers and garlands.

Nullum sine venia placuisse eloquium, is more sensibly understood by writers, than by readers; nor well apprehended by either, till works have hanged out like Apelles his pictures; wherein even common eyes will find something for emendation.

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* "*Tulipo-mania;*" *Narrencruiid, Laurenberg. Pet. Hondius in* lib. Belg.

[1] *or that this should succeed the other.*] In the present edition this order is reversed; the reason for which is stated in the preface.

To wish all readers of your abilities, were unreasonably to multiply the number of scholars beyond the temper of these times. But unto this ill-judging age, we charitably desire a portion of your equity, judgment, candour, and ingenuity; wherein you are so rich, as not to lose by diffusion. And being a flourishing branch of that noble family,* unto whom we owe so much observance, you are not new set, but long rooted in such perfection; whereof having had so lasting confirmation in your worthy conversation, constant amity, and expression; and knowing you a serious student in the highest *arcana* of nature; with much excuse we bring these low delights, and poor maniples to your treasure.

Your affectionate Friend and Servant,

THOMAS BROWNE.

Norwich, May 1st.

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* Of the most worthy Sir Edmund Bacon prime baronet, my true and noble friend.[3]

[3] This was the fourth (premier) baronet, grandson of Sir Robert, the third baronet, whose younger brother Nicholas (6th son of the first baronet) was the father of Nicholas, (afterwards Sir Nicholas, Bart. of Gillingham) to whom the present letter was addressed; and who thus was first cousin to Sir Edmund's father. Ultimately the line of Sir Robert, the 3rd baronet; failed; and the premier baronetcy passed into that of his brother Sir Butts Bacon, of Mildenhall, created a baronet, 29th of July, 1627, in the person of whose descendant Sir Richard, in 1755, were united the Redgrave, (or premier) baronetcy of 1611, and Mildenhall of 1627.

The Garden of Cyrus.

CHAPTER I.

THAT Vulcan gave arrows unto Apollo and Diana the fourth day after their nativities, according to Gentile theology,[1] may pass for no blind apprehension of the creation of the sun and moon, in the work of the fourth day: when the diffused light contracted into orbs, and shooting rays of those luminaries. Plainer descriptions there are from Pagan pens, of the creatures of the fourth day. While the divine philosopher * unhappily omitteth the noblest part of the third, and Ovid (whom many conceive to have borrowed his description from Moses), coldly deserting the remarkable account of the text, in three words † describeth this work of the third day,—the vegetable creation, and first ornamental scene of nature,—the primitive food of animals, and first story of physick in dietetical conservation.

For though physick may plead high, from that medical act of God, in casting so deep a sleep upon our first parent, and chirurgery ‡ find its whole art, in that one passage concerning

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* *Plato in Timæo.*

† *Fronde tegi silvas.*

‡ *διαίρεσις*, in opening the flesh; *ἐξαίρεσις*, in taking out the rib; *σύνθεσις*, in closing up the part again.

[1] *That Vulcan gave arrows, &c.*] *Statius, Theb.* i, 563; *Horat. Od.* i, 16, 6; *Propert.* ii, 31, 16; *Lucret.* i, 740; *Cic. Div.* i, 36.

the rib of Adam; yet is there no rivality with garden contrivance and herbary; for if Paradise were planted the third day of the creation, as wiser divinity concludeth, the nativity thereof was too early for horoscopy: gardens were before gardeners, and but some hours after the earth.

Of deeper doubt is its topography and local designation; yet being the primitive garden, and without much controversy* seated in the east, it is more than probable the first curiosity, and cultivation of plants, most flourished in those quarters. And since the ark of Noah first touched upon some mountains of Armenia, the planting art arose again in the east, and found its revolution not far from the place of its nativity, about the plains of those regions. And if Zoroaster were either Cham, Chus, or Mizraim, they were early proficients therein, who left, as Pliny delivereth, a work of agriculture.

However, the account of the pensile or hanging gardens of Babylon, if made by Semiramis, the third or fourth from Nimrod, is of no slender antiquity; which being not framed upon ordinary level of ground, but raised upon pillars, admitting under-passages, we cannot accept as the first Babylonian gardens,—but a more eminent progress and advancement in that art than any that went before it; somewhat answering or hinting the old opinion concerning Paradise itself, with many conceptions elevated above the plane of the earth.[2]

Nabuchodonosor (whom some will have to be the famous

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* For some there is from the ambiguity of the word *Mikedem*, whether *ab Oriente*, or *a principio*.

[2] *with some conceptions elevated, &c.*] In MS. SLOAN. 1847, I find the following passage, evidently intended for this work, which may be introduced here:—"We are unwilling to diminish or loose the credit of Paradise, or only pass it over with [the Hebrew word for] *Eden*, though the Greek be of a later name. In this excepted, we know not whether the ancient gardens do equal those of late times, or those at present in Europe. Of the gardens of Hesperies, we know nothing singular, but some golden apples. Of Alcinous his garden, we read nothing beyond figgs, apples, and olives; if we allow it to be any more than a fiction of Homer, unhappily placed in Corfu, where the sterility of the soil makes men believe there was no such thing at all. The gardens of Adonis were so empty that they afforded proverbial expression, and the principal part thereof was empty spaces, with herbs and flowers in pots. I think we little understand the pensile gardens of Semiramis, which made one of the wonders of it, [Babylon] wherein probably the structure exceeded the plants contained in them. The excellency thereof was probably in the trees, and if the descension of the roots be equal to the height of trees, it was not [absurd] of Strebæus to think the pillars were hollow that the roots might shoot into them."

Syrian King of Diodorus) beautifully repaired that city, and so magnificently built his hanging gardens,* that from succeeding writers he had the honour of the first. From whence overlooking Babylon, and all the region about it, he found no circumscription to the eye of his ambition; till over-delighted with the bravery of this Paradise, in his melancholy metamorphosis he found the folly of that delight, and a proper punishment in the contrary habitation—in wild plantations and wanderings of the fields.

The Persian gallants, who destroyed this monarchy, maintained their botanical bravery. Unto whom we owe the very name of Paradise, wherewith we meet not in Scripture before the time of Solomon, and conceived originally Persian. The word for that disputed garden expressing, in the Hebrew, no more than a field enclosed, which from the same root is content to derive a garden and a buckler.

Cyrus the Elder, brought up in woods and mountains,[3] when time and power enabled, pursued the dictate of his education, and brought the treasures of the field into rule and circumscription. So nobly beautifying the hanging gardens of Babylon, that he was also thought to be the author thereof.

Ahasuerus (whom many conceive to have been Artaxerxes Longimanus), in the country and city of flowers,† and in an open garden, entertained his princes and people, while Vashti more modestly treated the ladies within the palace thereof.

But if, as some opinion,‡ King Ahasuerus were Artaxerxes Mnemon, that found a life and reign answerable unto his great memory, our magnified Cyrus was his second brother, who gave the occasion of that memorable work, and almost miraculous retreat of Xenophon. A person of high spirit and honour, naturally a king, though fatally prevented by the harmless chance of post-geniture; not only a lord of gardens, but a manual planter thereof, disposing his trees, like his armies, in regular ordination. So that while old Laertes hath found a name in Homer for pruning hedges, and clearing away thorns and briars; while King Attalus lives for his poisonous plantations of aconites, henbane, hellebore, and plants hardly admitted within the walls of Paradise; while many of the ancients do poorly live in the single names of vegetables; all stories do look upon Cyrus, as the splendid and regular planter.

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* Josephus. † *Sushan* in *Susiana.* ‡ *Plutarch*, in *the Life of Artaxerxes.*

[3] *Cyrus the elder, &c.*] Alluding to his having been brought up by the shepherd of Astyages, his grandfather.

According whereto Xenophon* describeth his gallant plantation at Sardis, thus rendered by Strebæus. "*Arbores pari intervallo sitas, rectos ordines, et omnia perpulchrè in quincuncem directa.*" Which we shall take for granted as being accordingly rendered by the most elegant of the Latins,† and by no made term, but in use before by Varro. That is, the rows and orders so handsomely disposed, or five trees so set together, that a regular angularity, and thorough prospect, was left on every side. Owing this name not only unto the quintuple number of trees, but the figure declaring that number, which being double at the angle, makes up the letter X, that is, the emphatical decussation, or fundamental figure.

Now though, in some ancient and modern practice, the area, or decussated plot might be a perfect square, answerable to a Tuscan pedestal, and the *quinquernio* or cinque point of a dye, wherein by diagonal lines the intersection was rectangular; accommodable unto plantations of large growing trees, and we must not deny ourselves the advantage of this order; yet shall we chiefly insist upon that of Curtius and Porta,‡ in their brief description hereof. Wherein the *decussis* is made within in a longilateral square, with opposite angles, acute and obtuse at the intersection, and so upon progression making a *rhombus* or lozenge figuration, which seemeth very agreeable unto the original figure. Answerable whereunto we observe the decussated characters in many consulary coins, and even in those of Constantine and his sons, which pretend their pattern in the sky; the crucigerous ensign carried this figure, not transversely or rectangularly intersected, but in a decussation, after the form of an Andrean or Burgundian cross, which answereth this description.

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* *In Œconomico.*

† *Cicero in Cat. Major.*

‡ Benedict. *Curticus de Horis. Bapt. Porta in villa.*

Where by the way we shall decline the old theme, so traced by antiquity, of crosses and crucifixion; whereof some being right, and of one single piece without transversion or transom, do little advantage our subject. Nor shall we take in the mystical *Tau*, or the cross of our blessed Saviour, which having in some descriptions an *Empedon* or crossing footstay, made not one single transversion. And since the learned Lipsius hath made some doubt even of the cross of St. Andrew, since some martyrological histories deliver his death by the general name of a cross, and Hippolytus will have him suffer by the sword, we shall have enough to make out the received cross of that martyr. Nor shall we urge the *Labarum*, and famous standard of Constantine, or make further use thereof, than as the first letters in the name of our Saviour Christ, in use among Christians, before the days of Constantine, to be observed in sepulchral monuments * of martyrs, in the reign of Adrian, and Antoninus; and to be found in the antiquities of the Gentiles, before the advent of Christ, as in the medal of King Ptolemy, signed with the same characters, and might be the beginning of some word or name, which antiquaries have not hit on.

We will not revive the mysterious crosses of Egypt, with circles on their heads,[4] in the breast of Serapis, and the hands of their genial spirits, not unlike the character of Venus, and looked on by ancient Christians with relation unto Christ. Since however they first began, the Egyptians thereby expressed the process and motion of the spirit of the world, and the diffusion thereof upon the celestial and elemental nature; employed by a circle and right-lined intersection,—a secret in their telesmes[5] and magical characters among them. Though he that considereth the plain cross * upon the head of the owl in the Lateran obelisk, or the cross † erected upon a pitcher diffusing streams of water into two basins, with sprinkling branches in them, and all described upon a two-footed altar, as in the hieroglyphicks of the brazen table of Bembus; will hardly decline all thought of Christian signality in them.

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* Of Marius, Alexander. *Roma Sotterranea.*

[4] *mysterious crosses of Egypt, with circles on their heads.*] Our author here alludes to the *crux ansata*, or handled cross, vulgarly termed the Key of the Nile, which is so often sculptured or otherwise represented upon Egyptian monuments. Nearly all his remarks upon it are illustrated by the following passage from Dr. Young's article on Egypt, in the supplement to the *Encyclopædia Britannica.* "The *crux ansata*, sometimes called the Key of the Nile, is usually employed as a symbol of divinity; but its correct meaning is LIFE, as Lacroze rightly conjectured, although his opinion respecting the origin of the character is inconsistent with the form of its oldest and most accurate delineations; and there is no one instance in which it is so represented as to stand in any relation to a sluice or a watercock. According to Socrates and Rufinus, the Egyptian priests declared to their Christian conquerors under Theodosius, who were going to destroy the Serapeum at Alexandria, that the cross, so often sculptured on their temples, was an emblem of the life to come. This passage has been understood by some authors as relating rather to the cross without a handle, which is observable in some rare instances, and indeed twice on the stone of Rosetta; but this symbol appears rather to denote a protecting power, than an immortal existence. It happens, perhaps altogether accidentally, that one of the contractions for the word God, which are commonly used in Coptic,

We shall not call in the Hebrew *Tenupha*, or ceremony of their oblations, waved by the priest unto the four quarters of the world, after the form of a cross, as in the peace offerings. And if it were clearly made out what is remarkably delivered from the traditions of the rabbins,—that as the oil was poured coronally or circularly upon the head of kings, so the high-priest was anointed decussatively or in the form of an X,—though it could not escape a typical thought of Christ, from mystical considerators, yet being the conceit is Hebrew,

* Wherein the lower part is somewhat longer, as defined by *Upton de studio militari*, and *Johannes de Bado Aureo, cum comment. clariss. et doctiss. Bissæi.*

† *Casal. de Ritibus. Bosio nella Trionfante croce.*

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approaches very near to this character, except that the arms of the cross are within the circle."—*Supp. Ency. Brit.* vol. iv, p. 66, No. 108.

Whether the notion of Lacroze controverted by Dr. Young was derived from the "cross erected upon a pitcher," &c. mentioned by Browne in the same paragraph; we have no present means of ascertaining, but even if so, Dr. Young's remark will not be invalidated, for the Bembine table, on which only, as it would appear, that representation occurs, is a document of no authority, as we have already had occasion to observe, in a note on the *Pseudodoxia*, p. 451, note 1.

The handled cross, as Dr. Young has elsewhere intimated, seems to have been the only one of the Egyptian hieroglyphics, the true signification of which was never quite lost, a traditionary record of its having always been preserved. The error of attributing a Christian origin to this symbol, has, if we remember right, been committed by some modern traveller in Egypt or Nubia, who finding certain stones with inscriptions having this cross over them, supposed them to be the grave-stones of Christians, and marvels greatly at the discovery of Christian monuments in that particular locality, the situation of which, if our recollection be correct, was sufficiently inconsistent, indeed, with the notion of the existence of such relics.—*Br.*

[5] *telesme.*] Talisman.

we should rather expect its verification from analogy in that language, than to confine the same unto the unconcerned letters of Greece, or make it out by the characters of Cadmus or Palamedes.

Of this quincuncial ordination the ancients practised much, discoursed little; and the moderns have nothing enlarged; which he that more nearly considereth, in the form of its square rhombus, and decussation, with the several commodities, mysteries, parallelisms, and resemblances, both in art and nature, shall easily discern the elegancy of this order.

That this was in some ways of practice in divers and distant nations, hints or deliveries there are from no slender antiquity. In the hanging gardens of Babylon, from Abydenus, Eusebius, and others,[*] Curtius describeth this rule of decussation. In the memorable garden of Alcinous, anciently conceived an original fancy from Paradise, mention there is of well contrived order; for so hath Didymus and Eustachius expounded the emphatical word.[6] Diomedes describing the rural possessions of his father, gives account in the same language of trees orderly planted. And Ulysses being a boy, was promised by his father forty fig-trees, and fifty rows of vines producing all kinds of grapes.[†]

That the eastern inhabitants of India made use of such order, even in open plantations, is deducible from Theophrastus; who, describing the trees whereof they made their garments, plainly delivereth that they were planted *κατ' ὄρχους*, and in such order that at a distance men would mistake them for vineyards. The same seems confirmed in Greece from a singular expression in Aristotle[‡] concerning the order of vines, delivered by a military term representing the orders of soldiers, which also confirmeth the antiquity of this form yet used in vineal plantations.

That the same was used in Latin plantations is plainly confirmed from the commending pen of Varro, Quintilian, and handsome description of Virgil.*

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[*] *Decussatio ipsa jucundum ac peramænum conspectum præbuit.* Curt. *Hortar.* l. vi.

[†] ὄρχοι, στίχοι ἀμπέλων, φυτῶν στίχος, ἡ κατὰ τάξιν φυτεία. *Phavorinus. Philoxenus.*

[‡] συστάδας ἀμπέλων. Polit. vii.

[6] *the emphatical word.*] Probably ὄρχος. See *Odyss. in loc.*

That the first plantations not long after the flood were disposed after this manner, the generality and antiquity of this order observed in vineyards, and vine plantations, affordeth some conjecture. And since, from judicious enquiry, Saturn, who divided the world between his three sons, who beareth a sickle in his hand, who taught the plantations of vines, the setting, grafting of trees, and the best part of agriculture, is discovered to be Noah,—whether this early dispersed husbandry in vineyards had not its original in that patriarch, is no such paralogical doubt.

And if it were clear that this was used by Noah after the flood, I could easily believe it was in use before it:—not willing to fix to such ancient inventions no higher original than Noah; nor readily conceiving those aged heroes, whose diet was vegetable, and only or chiefly consisted in the fruits of the earth, were much deficient in their splendid cultivations, or (after the experience of fifteen hundred years,) left much for future discovery in botanical agriculture; nor fully persuaded that wine was the invention of Noah, that fermented liquors, which often make themselves, so long escaped their luxury or experience, that the first sin of the new world was no sin of the old; that Cain and Abel were the first that offered sacrifice; or because the Scripture is silent, that Adam or Isaac offered none at all.

Whether Abraham, brought up in the first planting country, observed not some rule hereof, when he planted a grove at Beer-sheba; or whether at least a like ordination were not in the garden of Solomon, probability may contest; answerably unto the wisdom of that eminent botanologer, and orderly disposer of all his other works. Especially since this was one piece of gallantry, wherein he pursued the specious part of felicity, according to his own description: "I made me gardens and orchards, and planted trees in them of all kinds of fruits: I made me pools of water, to water therewith the wood that bringeth forth trees."* Which was no ordinary plantation, if according to the Targum, or Chaldee paraphrase, it contained all kinds of plants, and some fetched as far as India; and the extent thereof were from the wall of Jerusalem unto the water of Siloah.

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* *Indulge ordinibus, nec secius omnis in unguem*
Arboribus positis, secto via limite quadret. Georg. ii.

And if Jordan were but *Jaar Eden,* that is the river of Eden; Genesar but Gansar or the prince of gardens; and it could be made out, that the plain of Jordan were watered not comparatively, but causally, and because it was the Paradise of God, as the learned Abramas † hinteth: he was not far from the prototype and original of plantations. And since even in Paradise itself, the tree of knowledge was placed in the middle of the garden, whatever was the ambient figure, there wanted not a centre and rule of decussation. Whether the groves and sacred plantations of antiquity were not thus orderly placed, either by *quaternios,* or quintuple ordinations, may favourably be doubted. For since they were so methodical in the constitutions of their temples, as to observe the due situation, aspect, manner, form, and order in architectonical[7] relations, whether they were not as distinct in their groves and plantations about them, in form and species respectively unto their deities, is not without probability of conjecture. And in their groves of the sun this was a fit number by multiplication to denote the days of the year; and might hieroglyphically speak as much, as the mystical statue of Janus ‡ in the language of his fingers. And since they were so critical in the number of his horses, the strings of his harp, and rays about his head, denoting the orbs of heaven, the seasons and months of the year, witty idolatry would hardly be flat in other appropriations.

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* Eccles. ii. † *Vet. Testamenti Pharus.*

‡ Which king *Numa* set up, with his fingers so disposed that they numerically denoted 365.—*Pliny.*

[7] *architectonical.*] "Having skill in architure" is Dr. Johnson's definition of this word:—and he quotes a passage from Browne, *Tract* 1, vol. iv, p. 124. But he seems to use the word more generally in the sense of relating to architecture.

CHAPTER II.

NOR was this only a form of practice in plantations, but found imitation from high antiquity, in sundry artificial contrivances and manual operations. For (to omit the position of squared stones, *cuneatim* or wedgewise, in the walls of Roman and Gothick buildings, and the *lithostrata* or figured pavements of the ancients, which consisted not all of square stones, but were divided into triquetrous segments, honeycombs, and sexangular figures, according to Vitruvius;) the squared stones and bricks, in ancient fabricks, were placed after this order; and two above or below, conjoined by a middle stone or *plinthus;* observable in the ruins of *Forum Nervæ*, the mausoleum of Augustus, the pyramid of Cestius, and the sculpture draughts of the larger pyramids of Egypt. And therefore in the draughts of eminent fabricks, painters do commonly imitate this order in the lines of their description.

In the laureat draught of sculpture and picture, the leaves and foliate works are commonly thus contrived, which is but in imitation of the *pulvinaria*, and ancient pillow-work, observable in Ionick pieces, about columns, temples and altars. To omit many other analogies in architectonical draughts; which art itself is founded upon fives, * as having its subject, and most graceful pieces divided by this number.

The triumphal oval, and civical crowns of laurel, oak, and myrtle, when fully made were plaited after this order. And (to omit the crossed crowns of Christian princes; what figure that was which Anastasius described upon the head of Leo the third; or who first brought in the arched crown;) that of

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* Of a structure five parts, *fundamentum*, *parietes*, *aperturæ*, *compartitio*, *tectum*. Leo Alberti. Five columns, Tuscan, Dorick, Ionick, Corinthian, Compound. Five different intercolumniations, *pyonostylos*, *distylos*, *systylos*, *ascostylos*, *eustylos*, *Vitruv.*

Charles the Great, (which seems the first remarkably closed crown,) was framed after this * manner; with an intersection in the middle from the main crossing bars, and the interspaces, unto the frontal circle, continued by handsome net-work plates, much after this order. Whereon we shall not insist, because from greater antiquity, and practice of consecration, we meet with the radiated, and starry crown, upon the head of Augustus, and many succeeding emperors. Since the Armenians and Parthians had a peculiar royal cap; and the Grecians, from Alexander, another kind of diadem. And even diadems themselves were but fasciations, and handsome ligatures, about the heads of princes; nor wholly omitted in the mitral crown, which common picture seems to set too upright and forward upon the head of Aaron; worn † sometimes singly, or doubly by princes, according to their kingdoms; and no more to be expected from two crowns at once, upon the head of Ptolemy. And so easily made out, when historians tell us, some bound up wounds, some hanged themselves with diadems.

The beds of the ancients were corded somewhat after this fashion: that is, not directly, as ours at present, but obliquely, from side to side, and after the manner of net-work; whereby they strengthened the *spondæ* or bedsides, and spent less cord in the net-work: as is demonstrated by ‡ Blancanus.

And as they lay in crossed beds, so they sat upon seeming cross-legged seats; in which form the noblest thereof were framed: observable in the triumphal seats, the *sella curulis*, or Edile chairs; in the coins of Cestius, Sylla, and Julius. That they sat also cross-legged, many nobler draughts declare; and in this figure the sitting gods and goddesses are drawn in medals and medallions.§ And, beside this kind of work in retiary and hanging textures, in embroideries, and eminent needle-works, the like is obvious unto every eye in glass windows. Nor only in glass contrivances, but also in lattice and stone work, conceived in the temple of Solomon; wherein the windows are termed *fenestræ reticulatæ*, or lights framed like nets. And agreeable unto the Greek expression || concerning

* *Uti constat ex pergamena apud Chiffler.* in B. R. *Bruxelli*, *et Icon.* f. *Stradæ.*

† *Aristot. Mechan. Quæst.*

‡ The larger sort of medals.

§ Macc. i. xi.

|| *δικτυωτά.*

Christ in the Canticles,* looking through the nets, which ours hath rendered, "he looketh forth at the windows, shewing himself through the lattice;" that is, partly seen and unseen, according to the visible and invisible sides of his nature. To omit the noble reticulate work, in the chapiters of the pillars of Solomon, with lilies and pomegranates upon a net-work ground; and the *graticula* or grate through which the ashes fell in the altar of burnt offerings.

That the net works and nets of antiquity were little different in the form from ours at present, is confirmable from the nets in the hands of the retiary gladiators, the proper combatants with the *Secutores*. To omit the ancient *conopeion* or gnat-net of the Ægyptians, the inventors of that artifice; the rushy labyrinths of Theocritus; the nosegay nets, which hung from the head under the nostrils of princes; and that uneasy metaphor of *reticulum jecoris*,† which some expound the lobe, we the caul above the liver. As for that famous net-work of Vulcan, which inclosed Mars and Venus, and caused that ‡ unextinguishable laugh in heaven,—since the gods themselves could not discern it, we shall not pry into it: although why Vulcan bound them, Neptune loosed them, and Apollo should first discover them, might afford no vulgar mythology. Heralds have not omitted this order or imitation thereof, while they symbolically adorn their scutcheons with mascles, fusils, and saltyres, and while they dispose the figures of Ermines, and varied coats in this quincunical method.§

The same is not forgot by lapidaries, while they cut their gems pyramidally, or by æquicrural triangles. Perspective pictures, in their base, horizon, and lines of distances, cannot escape these rhomboidal decussations. Sculptors in their strongest shadows, after this order do draw their double hatches. And the very Americans do naturally fall upon it, in their neat and curious textures, which is also observed in the elegant artifices of Europe. But this is no law unto the woof of the neat retiary spider, which seems to weave without transversion, and by the union of right lines to make out a continual surface, which is beyond the common art of textury, and may still nettle Minerva,* the goddess of that mystery. And he that shall hatch the little seeds, either found in small webs, or white round eggs, carried under the bellies of some spiders, and behold how at their first production in boxes, they will presently fill the same with their webs, may observe the early, and untaught finger of nature, and how they are natively provided with a stock sufficient for such texture.

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* Cant. ii.

† In Leviticus.

‡ Ἄσβεστος δ' ἄρ' ἐνῶρτο γέλως. *Hom.*

§ *De armis Scaccatis, masculatis, invectis, fusclatis*, vide *Spelman*, *Aspilog*, *et Upton cura erud. Byssæi.*

The rural charm against dodder, tetter, and strangling weeds, was contrived after this order, while they placed a chalked tile at the four corners, and one in the middle of their fields: which, though ridiculous in the intention, was rational in the contrivance, and a good way to diffuse the magick through all parts of the area.

Somewhat after this manner they ordered the little stones in the old game of *Pentalithismus*, or casting up five stones to catch them on the back of their hand. And with some resemblance hereof, the *proci* or prodigal paramours disposed their men, when they played at *Penelope*.† For being themselves an hundred and eight, they set fifty four stones on either sides, and one in the middle, which they called Penelope; which he that hit was master of the game.

In chess boards and tables we yet find pyramids and squares. I wish we had their true and ancient description, far different from ours, or the *chet mat* of the Persians, which might continue some elegant remarkables, as being an invention as high as Hermes the secretary of Osyris, figuring the whole world, the motion of the planets, with eclipses of sun and moon.

Physicians are not without the use of this decussation in several operations, in ligatures and union of dissolved continuities. Mechanics make use hereof in forcipal organs, and instruments of incision; wherein who can but magnify the power of decussation, inservient to contrary ends, solution and consolidation, union and division, illustrable from Aristotle in the old *nucifragium*, or nutcracker, and the instruments of evulsion, compression, or incision; which consisting of two *vectes*, or arms, converted towards each other, the innitency [8] and stress being made upon the *hypomochlion*, or fulciment [9] in the decussation, the greater compression is made by the union of two impulsors.

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* As in the contention between Minerva and Arachne.

† *In Eustachius, in Homerum.*

The Roman *batalia* * was ordered after this manner, whereof as sufficiently known, Virgil hath left but an hint, and obscure intimation. For thus were the maniples and cohorts of the *hastati*, *principes*, and *triarii* placed in their bodies, wherein consisted the strength of the Roman battle. By this ordination they readily fell into each other; the *hastati* being pressed, handsomely retired into the intervals of the *principes*, these into that of the *triarii*, which making as it were a new body, might jointly renew the battle, wherein consisted the secret of their successes. And therefore it was remarkably† singular in the battle of Africa, that Scipio, fearing a rout from the elephants of the enemy, left not the *principes* in their alternate distances, whereby the elephants, passing the vacuities of the *hastati*, might have run upon them, but drew his battle into right order, and leaving the passages bare, defeated the mischief intended by the elephants. Out of this figure were made two remarkable forms of battle, the *cuneus* and *forceps*, or the shear and wedge battles, each made of half a *rhombus*, and but differenced by position. The wedge invented to break or work into a body, the *forceps* to environ and defeat the power thereof, composed out of the selectest soldiery, and disposed into the form of a V, wherein receiving the wedge, it inclosed it on both sides. After this form the famous Narses‡ ordered his battle against the Franks, and by this figure the Almans were enclosed, and cut in pieces.

The *rhombus* or lozenge-figure so visible in this order, was also a remarkable form of battle in the Grecian cavalry,§ observed by the Thessalians, and Philip King of Macedon, and frequently by the Parthians; as being most ready to turn every way, and best to be commanded, as having its ductors, or commanders at each angle.

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* In the disposure of the legions in the wars of the republick, before the division of the legion into ten cohorts by the Emperors. Salmas. in his epistle *à Monsieur de Peyresc. et de Re Militari Romanorum.*

† *Polybius. Appianus.* ‡ *Agathius. Ammianus.* § *Ælian. Tact.*

[8] *innitency.*] His own synonym for "stress."

[9] *fulciment.*] *Fulcrum.*

The Macedonian phalanx (a long time thought invincible,) consisted of a long square. For though they might be sixteen in rank and file, yet when they shut close, so that the sixth pike advanced before the first rank, though the number might be square, the figure was oblong, answerable unto the quincuncial quadrate of Curtius. According to this square, Thucydides delivers, the Athenians disposed their battle against the Lacedemonians, brickwise,* and by the same word the learned Gellius expoundeth the quadrate of Virgil, after the form of a brick or tile.†

And as the first station and position of trees, so was the first habitation of men, not in round cities, as of later foundation; for the form of Babylon the first city was square, and so shall also be the last, according to the description of the holy city in the Apocalypse. The famous pillars of Seth, before the flood, had also the like foundation,‡ if they were but antediluvian obelisks, and such as Cham and his Egyptian race imitated after the flood.

But Nineveh, which authors acknowledge to have exceeded Babylon, was of a longilateral figure,§ ninety-five furlongs broad, and an hundred and fifty long, and so making about sixty miles in circuit, which is the measure of three days' journey, according unto military marches, or castrensial mansions. So that if Jonas entered at the narrower side, he found enough for one day's walk to attain the heart of the city, to make his proclamation. And if we imagine a city extending from Ware to London, the expression will be moderate of sixscore thousand infants, although we allow vacuities, fields, and intervals of habitation; as there needs must be when the monument of Ninus took up no less than ten furlongs.

And, though none of the seven wonders, yet a noble piece of antiquity, and made by a copy exceeding all the rest, had its principal parts disposed after this manner; that is, the labyrinth of Crete, built upon a long quadrate, containing five large squares; communicating by right inflexions, terminating in the centre of the middle square, and lodging of the Minotaur, if we conform unto the description of the elegant medal thereof in Agostino.* And though in many accounts we reckon grossly by the square, yet is that very often to be accepted as a long-sided quadrate, which was the figure of the ark of the covenant, the table of the shew-bread, and the stone wherein the names of the twelve tribes were engraved, that is, three in a row, naturally making a longilateral figure, the perfect quadrate being made by nine.

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* ἐν πλαισίω.

† *Secto via limite quadret. Comment. in Virgil.*

‡ Obelisks, being erected upon a square base.

§ *Doid. Sic.*

What figure the stones themselves maintained, tradition and Scripture are silent, yet lapidaries in precious stones affect a table or long square, and in such proportion, that the two lateral, and also the three inferior tables are equal unto the superior; and the angles of the lateral tables contain and constitute the *hypothenusæ*, or broader sides subtending.

That the tables of the law were of this figure, general imitation and tradition hath confirmed. Yet are we unwilling to load the shoulders of Moses with such massy stones, as some pictures lay upon them; since it is plainly delivered that he came down with them in his hand; since the word strictly taken implies no such massy hewing, but cutting, and fashioning of them into shape and surface; since some will have them emeralds, and if they were made of the materials of Mount Sinai, not improbable that they were marble; since the words were not many, the letters short of seven hundred, and the tables,[1] written on both sides, required no such capacity.

The beds of the ancients were different from ours at present, which are almost square, being framed oblong, and about a double unto their breadth; not much unlike the area, or bed of this quincuncial quadrate. The single beds of Greece were six feet † and a little more in length, three in breadth; the giant-like bed of Og, which had four cubits of breadth, nine and a half in length, varied not much from this proportion. The funeral bed of King Cheops, in the greater pyramid, which holds seven in length, and four feet in breadth, had no great difformity from this' measure; and whatsoever were the breadth, the length could hardly be less, of the tyrannical bed of Procrustes, since in a shorter measure he had not been fitted with persons for his cruelty of extension. But the old sepulchral bed, or Amazonian tomb* in the market place of Megara, was in the form of a lozenge, readily made out by the composure of the body; for the arms not lying fasciated or wrapt up after the Grecian manner, but in a middle distension, the including lines will strictly make out that figure.

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* *Antonio Agostino Delle Medaglie.* † *Aristot. Mechan.*

[1] *tables.*] Pineda thinks the tables of the law were of sapphire.—*Jeff.*

CHAPTER III.

Now although this elegant ordination of vegetables hath found coincidence or imitation in sundry works of art, yet is it not also destitute of natural examples; and, though overlooked by all, was elegantly observable, in several works of nature.

Could we satisfy ourselves in the position of the lights above, or discover the wisdom of that order so invariably maintained in the fixed stars of heaven; could we have any light, why the stellary part of the first mass separated into this order, that the girdle of Orion should ever maintain its line, and the two stars in Charles' wain never leave pointing at the pole star; we might abate the Pythagorical musick of the spheres, the sevenfold pipe of Pan, and the strange cryptography of Gaffarel in his starry book of heaven.

But, not to look so high as heaven, or the single quincunx of the *Hyades* upon the head of Taurus, the triangle, and remarkable *crusero* about the foot of the Centaur,—observable rudiments there are hereof in subterraneous concretions, and bodies in the earth; in the *gypsum* or *talcum rhomboides*, in the *favaginites*, or honeycomb stone, in the *asteria* and *astroites*, and in the crucigerous stone of S. Jago of Gallicia.

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* *Plut. in vit. Thes.*

The same is observably effected in the *jülus*, catkins, or pendulous excrescencies of several trees; of walnuts, alders, and hazels, which hanging all the winter, and maintaining their net-work close, by the expansion thereof are the early foretellers of the spring: discoverable also in long pepper, and elegantly in the *jülus* of *calamus aromaticus*, so plentifully growing with us, in the first palms of willows, and in the flowers of sycamore, *petasites*, *asphodelus*, and *blattaria*, before explication. After such order stand the flowery branches in our best spread *verbascum*, and the seeds about the spicous head or torch of *thapsus barbatus*, in as fair a regularity as the circular and wreathed order will admit, which advanceth one side of the square, and makes the same rhomboidal. In the squamous heads of scabious, knapweed, and the elegant *jacea pinea*, and in the scaly composure of the oak rose,[*] which some years most aboundeth. After this order hath nature planted the leaves in the head of the common and prickled artichoke, wherein the black and shining flies do shelter themselves, when they retire from the purple flower about it. The same is also found in the pricks, sockets, and impressions of the seeds, in the pulp or bottom thereof; wherein do elegantly stick the fathers of their mother:[†] to omit the quincuncial specks on the top of the miscle-berry, especially that which grows upon the *tilia*, or lime tree; and the remarkable disposure of those yellow fringes about the purple pestil of Aaron, and elegant clusters of dragons, so peculiarly secured by nature, with an umbrella or skreening leaf about them.

The spongy leaves of some sea wracks, fucus, oaks, in their several kinds, found about the shore,[‡] with ejectments of the sea, are over-wrought with net-work elegantly containing this order: which plainly declareth the naturality of this texture;

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[*] *Capitula squamata quercuum*, *Bauhini*, whereof though he saith *perraro reperiuntur*, *bis tantum invenimus;* yet we find them commonly with us and in great numbers.

[†] *Antho. Græc. Inter Epigrammata.* γριφώδη ἔνδον ἐμῶν, μητρὸς λαγώναν ἔχω πατέρα.

[‡] Especially the *porus cervinus*, *imperati*, *sporosa*, or alga πλατύκερως *Bauhini*.

and how the needle of nature delighteth to work, even in low and doubtful vegetations.

The *arbustetum* or thicket on the head of the teazel, may be observed in this order: and he that considereth that fabrick so regularly palisadoed, and stemmed with flowers of the royal colour, in the house of the solitary maggot* may find the seraglio of Solomon; and contemplating the calicular shafts, and uncous disposure of their extremities, so accommodable unto the office of abstersion, not condemn as wholly improbable the conceit of those who accept it for the herb *borith*.†[2] Where by the way we could with much enquiry never discover any transfiguration in this abstemious insect, although we have kept them long in their proper houses and boxes. Where some, wrapt up in their webs, have lived upon their own bowels from September unto July.

In such a grove do walk the little creepers about the head of the burr; and such an order is observed in the aculeous prickly plantation upon the heads of several common thistles, remarkably in the notable palisadoes about the flower of the milk thistle, and he that enquireth into the little bottom of the globe thistle, may find that gallant bush arise from a scalp of like disposure.

The white umbrella, or medical bush of elder, is an epitome of this order, arising from five main stems quincuncially disposed, and tolerably maintained in their subdivisions. To omit the lower observations in the seminal spike of mercury wild, and plantain.

Thus hath Nature ranged the flowers of santfoyn, and French honysuckle, and somewhat after this manner hath ordered the bush in Jupiter's beard or houseleak, which old superstition set on the tops of houses, as a defensative against lightning and thunder. The like in fenny seagreen, or the water soldier,* which, though a military name from Greece, makes out the Roman order.

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* From there being a single maggot found almost in every head.

† Jer. ii, 22; Mal. iii, 2.

[2] *not condemn, &c.*] The LXX, Jerome, and the Vulgate, consider the Hebrew word used in Jer. ii, 22, and Mal. iii, 2, to refer to a plant, *herba fullonum*. Goguet calls it salt-wort, in the ashes of which a strong alkaline salt is contained. Our author, on the other hand, suggests that it may be *fullonum dypsacus*, or fuller's teazel.

A like ordination there is in the favaginous sockets, and lozenge seeds of the noble flower of the sun; wherein in lozenge-figured boxes nature shuts up the seeds, and balsam which is about them.

But the fir and pine tree from their fruits do naturally dictate this position; the rhomboidal protuberances in pine apples maintaining this quincuncial order unto each other, and each rhombus in itself. Thus are also disposed the triangular foliations in the conical fruit of the fir tree, orderly shadowing and protecting the winged seeds below them.

The like so often occurreth to the curiosity of observers, especially in spicated seeds and flowers, that we shall not need to take in the single quincunx of *Fuchsius* in the growth of the male fearn, the seedy disposure of *gramen ischemon,* and the trunk or neat reticulate work in the cod of the sachel palm.

For even in very many round-stalked plants, the leaves are set after a quintuple ordination, the first leaf answering the fifth in lateral disposition. Wherein the leaves successively rounding the stalk, in four, at the furthest, the compass is absolved, and the fifth leaf or sprout returns to the position of the other fifth before it; as in accounting upward is often observable in furze, pellitory, ragweed, the sprouts of oaks and thorns, upon pollards,† and very remarkably in the regular disposure of the rugged excrescencies in the yearly shoots of the pine.

But in square stalked plants, the leaves stand respectively unto each other, either in cross or decussation to those above or below them, arising at cross positions; whereby they shadow not each other, and better resist the force of winds, which in a parallel situation, and upon square stalks, would more forcibly bear upon them.

And, to omit how leaves and sprouts, which compass not the stalk, are often set in a *rhomboides,* and making long and short diagonals, do stand like the legs of quadrupeds when they go; nor to urge the thwart enclosure and fardling of flowers and blossoms before explications, as in the multiplied leaves of piony; and the *chiasmus* in five leaved flowers, while one lies wrapt about the staminous beards, the other four obliquely shutting and closing upon each other, and how even flowers which consist of four leaves, stand not ordinarily in three and one, but two, and two crosswise, unto the *stylus;* even the autumnal buds, which await the return of the sun, do after the winter solstice multiply their calicular leaves, making little rhombuses, and net-work figures, as in the sycamore and lilack.

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* *Stratiotes.*

† Pollard oaks, and thorns.

The like is discoverable in the original production of plants, which first putting forth two leaves, these which succeed bear not over each other, but shoot obliquely or crosswise, until the stalk appeareth, which sendeth not forth its first leaves without all order unto them, and he that from hence can discover in what position the two first leaves did arise, is no ordinary observator.

Where, by the way, he that observeth the rudimental spring of seeds, shall find strict rule, although not after this order. How little is required unto effectual generation, and in what diminutives the plastick principle lodgeth is exemplified in seeds, wherein the greater mass affords so little comproduction.[3] In beans the leaf and root sprout from the germen,

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[3] *How little, &c.*] In *MS. Sloan.* 1847, this passage stands thus;—"How little is required to the generation of animals, the late doctrine of generation hath instructed us:—and how the grosser sperme having served as a vehicle of the spiritual geniture, is sent out or exhaled and performeth no further office, seems also reasonable in the seminal propagation of plants, wherein the greatest part of the seed is of no effect."

In *MS. Sloan.* 1326, fol. 17, are the following observations on this passage; thus headed, and followed by a copy of his letter to Dr. Browne, whose reply I have also adjoined, from *MS. Sloan.* 3515. *Reflections upon some passages of Dr. Browne's book called 'Cyrus his Garden,' sent to Dr. Browne, from H. Power.* Chapt. 3, pag. 129, "hee that observeth (say you) the rudimentall spring of seeds, shall find ..... how little is required unto effectuall generation, and in what diminutives the plastick principle lodgeth;" and indeed 'tis worth our contemplation to consider from what contemptible principles the vast magnitude of some plants arise, as that from so small a neb in the acorne so majestick and stately a plant as the oake should be drawn. But what you meane by the plastick principle "lodging in these diminutive particles, I doe not well understand. I am farr more prone to beleeve that these fructifying particles or acornes (be they never so minute) are indeed the whole plant perfectly there epitomized. And that seeds doe not only potentially containe the formes of their own specifick plants, but are indeed *plantarum suarum fœtus*, and as it were a young and embrioned plant, capsulated and kradled (*sic*) up in severall filmes, huskes, and shells, and enclosed with a convenient the main sides split, and lie by; and in some pulled up near the time of blooming, we have found the pulpous sides entire or little wasted. In acorns the nib dilating splitteth the two sides, which sometimes lie whole, when the oak is sprouted

intrinsecall, primitive nutriment (just like the chick in an egge) which at first it feeds upon, till it has broke through the enclosing walles or pellicles, to receive more ample nourishment from its great mother the earth; and this in some manner is autoptically demonstrable, especially in some of the greater sorts of seeds and more visiblely in those that are something flattish and oblong; as in ash keys or chatts (our *linguæ avium*) the skins being removed and the kernell cleft lengthways in the middle you shall find a youngling ash: (viz. two white tender oblong leaves, lying one upon another with a stalk reaching to the point of the seed (not that point which is fastened to the tree but the other) to which tender stalk is annexed as it were a navell string or umbilicall vessel from the stemme through which the primitive atomes that materiald that plant were first conveyd.

In the mapple tree, both greater and lesser, though the keys or chatts be winged like the ash, yet is the diminutive mapple found foulded up in the knobby end thereof: in beans and peas at the cone point you there find those two little leaves and footstalk, which make the first protrusion and shoot out of the earth: in other smaller seeds especially the round ones, the leaves are circum-folded, the stalk lying as an axis in the centre of of them, as in cabbage and radish seeds, which when they break through the ground they erect themselves upright, sometime carrying their filme and skin (as children doe the silly how,) upon their topps, as in the sproots of onyons is manifest. Thus certainly the smallest seeds are nothing but their own plants shrunk into an atome, which though invisible to us, are easyly discernable to nature, and to that piercing eie, that sees through all things. In vaine therefore may wee expect an ocular demonstration of these things, unles wee had such glasses (as some men rant of) whereby they could see the transpiration of plants and animals, yea the very magneticall *effluviums* of the loadstone.

Now to stretch our conceits a little higher, wheather the spermatick principle of animals containe in it *ipsissimum sui generis animalculum actualiter fabricatum*, I am so farre from determining that I dare hardly conjecture, yet if it be true what I have heard some say, that in the *cicatricula* or birds eie (as our old wifes call it) of an egge, by a good microscope you may see all the parts of a chick exactly delineated before incubation; and if it be true what Harvey declares that *homo non immediate corporatur ex semine in uteru ejecto, sed per quantam contagionem*, it may and ought to exstimulate our unsatisfyed desires to a further enquiry—especially since wee see that the embryo in a woman, and those in cows and other animals, are not so big when sometimes abortively excluded as the kernell of a prunestone, and yet perfectly and integrally organized, yea (often times in that minutenesse to the very distinction of sex) but this may prove a subject of a large discourse. At present give me leave to returne into the garden againe. In another paragraph you doe not only take notice but handsomely prove a continuall transpiration in plants like to that in animals; which continually renews their lopt-off flowers, and where it is large and excessive perchance doubles their flowers, now I am soe much your convert in this point, that I can easily stretch my beliefe a little farther, and that is to conceive that all plants may not only have a transpiration of particles but a sensation also like animals. This is eminently enough discoverable in those 2 exotick hearbs (the sensitive and humble plants) vid. my letter to Mr. Robinson, 2nd August, 1656.

The conclusion of my letter to Dr. Browne.

These are some of those many eccentricall and extravagant conceits and fancyes of my own; how they may realish with you I know not, if they prove too raw and too crude to be digested by you I pray you prepare them better, and adde what corrections you please to them, and you shall ever obleige

Sir,
Your most faithfull Friend and Servant,
H. POWER.

From New Hall, neare Hallifax,
this 10 May, 1659.

two handfuls. In lupines these pulpy sides do sometimes arise with the stalk in the resemblance of two fat leaves. Wheat and rye will grow up, if after they have shot some tender roots, the adhering pulp be taken from them. Beans

MS. Sloan. 3515.

Worthy Sir,

The intent of that paragraph whereof you pleasd to take notice, was chiefly to showe by playne and rurall observation how litle of that which beareth the name of seed is the effectuall or generative part thereof, that the plastick or formative spirit lodgeth butt in a diminutive particle, and that the adhering masse doth nothing soe much in the future present production as is vulgarly apprehended, exemplified in beanes and acornes, that part consuming or corrupting into insects while the generative *primordium* makes his progress in the earth. And therefore this I saye may be exemplified unto all eyes without art and by an easie waye of experiment, howe little is required unto effectuall generation or germination, such as is able to produce a growne and confirmed plant, and in what diminitiues that spirit lyeth which worketh this effect, which must needs lodge in a very litle roome at first, since when its power is farther advanced, it makes butt a small bulk comparatively to the whole masse, and that masse not soe considerable as is conceived to the production and progression of the plant, butt serving for tegument, enclosure, and securement of the nebbe, and food for man and animals.

As for the higher originall of seeds, before they come to sprout in or out of the ground, though it bee not easie to demonstrate it from the first spermatizing of the plant, till a little time hath made some discoverie and the seed bee under some degree of germination, yet is it not improbable that the plant is delineated from the begining; that a lineall draught beginneth upon the first separation, and that these unto the eye of nature are butt soe many yonge ones hanging upon the mother plant, very soone discoverable in some by rudimentall lines in the soft gelly-like nebbe, in others more plainly sometime after by more plaine roote and leaves, as I instance in beanes and peas, and have long agoe observed in ashkeys, almonds, apricots, pistachios, before I read any hint thereof in Regius or description in Dr. Highmore. And this is also notable in spontaneous productions of plants upon emerging of the first vegetable atome, although the observation bee hard, and cannot soe neerly bee observed in any production as that of duckweed, from water kept in thinne glasses, wherin the leaves and roote will suddenly appeare where you suspected nothing before. And if the water bee never soe narrowlie wached, yet if you can perceive any alteration or atome as bigge as a needles poynt, within 3 or 4 howers, the plant will bee discoverable.

You have excellently delivered your sense in this you pleasd to send mee, and I desire you to pursue your conceptions in these and other worthie enquiries, and in the interim and at your leasure to consider, whether, if wee make our observations in ashkeys, maples, hardbowes, acornes, plummes, &c. then when the leaves and stemme are playnly found, the inference will bee soe satisfactorie and current as if observed higher before the pulpe bee formed, when the seed is in a gellie: for even at that time I seeme to find some rudiment of these parts in plummes, for otherwise men will not allow this to bee soe high a beginning of formation as is in the egge, after sometime when the galba or maggot-like shape beginnes to showe itself.

Though wee actually find the leaves and roote in these seeds, yet since other dissimilarie parts are accounted essential unto the same plants, as *truncus, rami, surculi,* whether these parts are not rather potentially therin, which are not discovered or produced untill a long time after.

The roote of white bryonie and some others, cutt in sunder and divided, produce newe rootes, shoote forth leaves, and soe growe on after a seminall progression, or as though they had been produced from seed: now whether in these peeces of rootes or any other there bee any actuall delineation of the plant at first as in seeds, may fall under consideration.

Dr. Hamie, whoe makes egges proportionall unto seeds, always insists upon the graduall displaye of parts potentially will prosper though a part be cut away, and so much set as sufficeth to contain and keep the germen close. From this superfluous pulp in unkindly, and wet years, may arise that multiplicity of little insects, which infest the roots and sprouts of tender grains and pulses.[4]

In the little nib or fructifying principle, the motion is regular, and not transvertible, as to make that ever the leaf, which nature intended the root; observable from their conversion, until they attain their right position, if seeds be set inversedly.

In vain we expect the production of plants from different parts of the seed; from the same corculum or little original proceed both germinations; and in the power of this slender particle lie many roots and sprouts, that though the same be pulled away, the generative particle will renew them again, and proceed to a perfect plant; and malt may be observed to grow, though the cummes be fallen from it.

The seminal nib hath a defined and single place, and not extended unto both extremes. And therefore many too vulgarly conceive that barley and oats grow at both ends; for they arise from one punctilio or generative nib, and the spear sliding under the husk, first appeareth nigh the top. But in wheat and rye being bare, the sprouts are seen together. If

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latent in them; yet even that the animall fœtus is delinneated at first though not demonstrable unto sence seems not wholly inuisible unto reason. And therefore herin Courueus contendeth with Dr. Hamie that a delineation is made at first, butt the parts made visible after, that they are not delineated *per epigenesia*, or one after another, buttin a cercle, or all together, as Hippocrates expresseth, though to be discoverable successively or one after another.

That there is a naturall sensitive in plants as Dr. Hamey hath discoursed seemes verie allowable, and besides some other reasons, from the experiment of the sensible plant; which is also to bee found in minor degree in some others, as jacea, scabious, thistles and such as Borellus observed and published some years agoe, and might bee observed in others; such a sense may bee in plant-animals and in the parts of perfect animals even when the head is cutt of.

Dear Sir, I wish my time would permitt my communication with you in any proportion to my desires, wherin I should never bee wearie, whereby I might continue the delight I have formerly had by many serious discourses with my old friend your good father, whose memorie is still fresh with mee and becomes more delightfull by this great enjoyment I have from his true and worthy sonne.

Sir I am
Your ever faythfull true
Friend and Servant,
THO. BROWNE.
June, 8.

How the sprouts of seeds carrie up their coat about them I have best observed in coriander seeds.

My wife comends her respects unto yourself and lady.

[4] *from this superfluous pulp, &c.*] This is a very probable explanation, though, we believe, it is not quite in accordance with some modern prevalent opinions.—*Br.*

barley unhulled would grow, both would appear at once. But in this and oat-meal the nib is broken away, which makes them the milder food and less apt to raise fermentation in decoctions.

Men taking notice of what is outwardly visible, conceive a sensible priority in the root. But as they begin from one part, so they seem to start and set out upon one signal of nature. In beans yet soft, in peas while they adhere unto the cod, the rudimental leaf and root are discoverable. In the seeds of rocket and mustard, sprouting in glasses of water, when the one is manifest, the other is also perceptible. In muddy waters apt to breed duckweed, and periwinkles, if the first and rudimental strokes of duckweed be observed, the leaves and root anticipate not each other. But in the date-stone the first sprout is neither root nor leaf distinctly, but both together; for the germination being to pass through the narrow navel and hole about the midst of the stone, the generative germ is fain to enlengthen itself, and shooting out about an inch, at that distance divideth into the ascending and descending portion.

And though it be generally thought, that seeds will root at the end, where they adhere to their originals, and observable it is that the nib sets most often next the stalk, as in grains, pulses, and most small seeds:—yet is it hardly made out in many greater plants. For in acorns, almonds, pistachios, wall-nuts, and acuminated shells, the germ puts forth at the remotest part of the pulp. And therefore to set seeds in that posture, wherein the leaf and roots may shoot right without contortion, or forced circumvolution which might render them strongly rooted, and straighter, were a criticism in agriculture. And nature seems to have made some provision hereof in many from their figure, that as they fall from the tree they may lie in positions agreeable to such advantages.

Beside the open and visible testicles of plants, the seminal powers lie in great part invisible, while the sun finds polypody in stone-walls, the little stinging nettle and nightshade in barren sandy high-ways, scurvy-grass in Greenland, and unknown plants in earth brought from remote countries. Beside the known longevity of some trees, what is the most lasting herb, or seed, seems not easily determinable. Mandrakes upon known account have lived near an hundred years. Seeds found in wild fowls' gizzards have sprouted in the earth. The seeds of marjoram and *stramonium* carelessly kept, have grown after seven years. Even in garden plots long fallow, and digged up, the seeds of *blattaria* and yellow henbane, after twelve years' burial, have produced themselves again.

That bodies are first spirits Paracelsus could affirm, which in the maturation of seeds and fruits, seem obscurely implied by Aristotle,* when he delivereth, that the spirituous parts are converted into water, and the water into earth; and attested by observation in the maturative progress of seeds, wherein at first may be discerned a flatuous distension of the husk, afterwards a thin liquor, which longer time digesteth into a pulp or kernel, observable in almonds and large nuts. And some way answered in the progressional perfection of animal semination, in its spermatical maturation from crude pubescency unto perfection. And even that seeds themselves in their rudimental discoveries, appear in foliaceous surcles, or sprouts within their coverings, in a diaphanous jelly, before deeper incrassation, is also visibly verified in cherries, acorns, plums.

From seminal considerations, either in reference unto one mother, or distinction from animal production, the Holy Scripture describeth the vegetable creation; and while it divideth plants but into herb and tree, though it seemeth to make but an accidental division, from magnitude, it tacitly containeth the natural distinction of vegetables, observed by herbalists, and comprehending the four kinds. For since the most natural distinction is made from the production of leaf or stalk, and plants after the two first seminal leaves, do either proceed to send forth more leaves, or a stalk, and the folious and stalky emission distinguisheth herbs and trees,† they stand authentically differenced but from the accidents of the stalk.

The equivocal production of things under undiscerned principles, makes a large part of generation, though they seem to hold a wide univocacy in their set and certain originals, while almost every plant breeds its peculiar insect, most a butterfly, moth or fly, wherein the oak seems to contain the largest seminality, while the julus,* oak-apple, pill, woolly tuft, foraminous roundles[5] upon the leaf, and grapes underground make a fly with some difference. The great variety of flies lies in the variety of their originals; in the seeds of caterpillars or cankers there lieth not only a butterfly or moth, but if they be sterile or untimely cast, their production is often a fly, which we have also observed from corrupted and mouldered eggs both of hens and fishes; to omit the generation of bees out of the bodies of dead heifers, or what is strange, yet well attested, the production of eels[6] in the backs of living cods and perches.[7]

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* *In Met. cum Cabeo.*

† In a large acception it compriseth all vegetables: for the *frutex* and *suffrutex* are under the progression of trees.

The exiguity and smallness of some seeds extending to large productions, is one of the magnalities of nature, somewhat illustrating the work of the creation, and vast production from nothing. The true † seeds of cypress and rampions are indistinguishable by old eyes. Of the seeds of tobacco a thousand make not one grain. The disputed seeds of hartstongue, and maidenhair, require a great number. From such undiscernable seminalities arise spontaneous productions. He that would discern the rudimental stroke of a plant, may behold it in the original of duckweed, at the bigness of a pin's point, from convenient water in glasses, wherein a watchful eye may also discover the puncticular originals of periwinkles and gnats.

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* These and more to be found upon our oaks; not well described by any till the edition of *Theatrum Botanicum*.

† *Schoneveldus de Pisc.*

‡ *Doctissim. Lauremburg. Hort.*

[5] *foraminous roundles,*] perforated, roundle, a round.

[6] *in the seeds, &c.*] The fact is that certain of the *ichneumonidæ* deposit their eggs in lepidopterous larvæ, by piercing the skin with their ovipositor;—these eggs thrive, hatch—the larvæ resulting feed on the entrails of that which contain them:—in due time they spin into *chrysalides*, and, at the period of maturity, instead of one moth, there springs forth a covey of ichneumons, which Browne calls flies.

[7] *production of eels.*] The parasites here alluded to, as will readily be concluded, are not eels, but belong to the *entozoa* of Rudolphi, or intestinal worms: in the case of the perch, they are referrible to the genus *Cucullanus*. Their general aspect sufficiently resembles that of the eel to excuse the error of the old naturalists; but our author himself, we apprehend, had not examined them, or his sagacity and accurate observation could not have failed to ascertain both their distinction from eels and somewhat of their true nature.—*Br.*

That seeds of some plants are less than any animals, seems of no clear decision; that the biggest of vegetables exceedeth the biggest of animals, in full bulk, and all dimensions, admits exception in the whale, which in length and above-ground-measure, will also contend with tall oaks. That the richest odour of plants, surpasseth that of animals, may seem of some doubt, since animal-musk seems to excel the vegetable, and we find so noble a scent in the tulip-fly, and goat-beetle.*

Now whether seminal nibs hold any sure proportion unto seminal enclosures, why the form of the germ doth not answer the figure of the enclosing pulp, why the nib is seated upon the solid, and not the channel side of the seed as in grains, why since we often meet with two yolks in one shell, and sometimes one egg within another, we do not oftener meet with two nibs in one distinct seed, why since the eggs of a hen laid at one course, do commonly outweigh the bird, and some moths coming out of their cases, without assistance of food, will lay so many eggs as to out weight their bodies, trees rarely bear their fruit in that gravity or proportion; whether in the germination of seeds, according to Hippocrates, the lighter part ascendeth, and maketh the sprout the heaviest, tending downward frameth the root, since we observe that the first shoot of seeds in water will sink or bow down at the upper and leafing end; whether it be not more rational Epicurism to contrive whole dishes out of the nibs and spirited particles of plants, than from the gallatures and treddles of eggs, since that part is found to hold no seminal share in oval generation, are queries which might enlarge, but must conclude this digression.

And though not in this order, yet how Nature delighteth in this number, and what consent and coordination there is in the leaves and parts of flowers, it cannot escape our observation in no small number of plants. For the calicular or supporting and closing leaves, do answer the number of the flowers, especially such as exceed not the number of swallows' eggs;† as in violets, stitchwort, blossoms, and flowers of one leaf have often five divisions, answered by a like number of calicular leaves, as *gentianella, convolvulus,* bell flowers. In many, the flowers, blades, or staminous shoots and leaves are all equally five, as in cockle, mullein, and *blattaria*; wherein the flowers before explication are pentagonally wrapped up with some resemblance of the *blatta* or moth, from whence it hath its name. But the contrivance of Nature is singular in the opening and shutting of bindweeds performed by five inflexures, distinguishable by pyramidal figures, and also different colours.

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* The long and tender green *capricornus*, rarely found; we could never meet with but two.

† Which exceedeth not five.

The rose at first is thought to have been of five leaves, as it yet groweth wild among us, but in the most luxuriant, the calicular leaves do still maintain that number. But nothing is more admired than the five brethren of the rose,[8] and the strange disposure of the appendices or beards, in the calicular leaves thereof, which in despair of resolution is tolerably salved from this contrivance, best ordered and suited for the free closure of them before explication. For those two which are smooth, and of no beard, are contrived to lye undermost, as without prominent parts, and fit to be smoothly covered; the other two which are beset with beards on either side, stand outward and uncovered, but the fifth or half-bearded leaf is covered on the bare side, but on the open side stands free, and bearded like the other.

Besides, a large number of leaves have five divisions, and may be circumscribed by a pentagon or figure of five angles, made by right lines from the extremity of their leaves, as in maple, vine, fig-tree; but five-leaved flowers are commonly disposed circularly about the stylus, according to the higher geometry of nature, dividing a circle by five radii, which concur not to make diameters, as in quadrilateral and sexangular intersections.

Now the number of five is remarkable in every circle,[9] not only as the first spherical number, but the measure of spherical motion. For spherical bodies move by fives, and every globular figure placed upon a plane, in direct volutation, returns to the first point of contaction in the fifth touch,

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[8] *the five brethren of the rose.*] Alluding to a rustic rhyme:

On a summer's day, in sultry weather,
Five brethren were born together,
Two had beards, and two had none,
And the other had but half a one.—*Jeff.*

[9] *the number of five is remarkable in every circle.*] As a curious parallel to the remarks contained in this paragraph, and as an illustration also of the philosophy of the subject of the prevalence in nature of the number *five*, to which, under another point of view, we shall have frequent occasion to return in our annotations upon this tract, we present the following luminous observations of

that venerable philosopher Mr. Colebrooke, forming the substance of his paper "*On Dichotomous and Quinary Arrangements in Natural History,*" read before the Linnean Society a few years since, and published in the *Zoological Journal.* After describing and admitting the value of the dichotomous arrangement, Mr. Colebrooke proceeds as follows:

"But a more instructive arrangement is that which exhibits an object in all its bearings, which places it amidst its cognates; and contiguous to them again, those which approach next in degree of affinity, and thence branching every way to remoter relations.

"If we imagine samples of every natural object, or a very large group of them, to be so marshalled, we must conceive such a group as occupying, not a plane, but a space of three dimensions. Were it immensely numerous, the space so occupied would approximate to a globular form; for indefinite space, around a given point, is to the imagination spheroidal, as the sky seems vaulted.

"It may easily be shewn, therefore, that the simplest distribution of a large assemblage of objects marshalled in the manner here assumed, around a select one, or that distribution, which taking one central or interior group, makes a few and but a few equidistant exterior ones, is quinary. The centres of the exterior groups will stand at the solid angles of a tetrahedron within a sphere, of which the centre in the middle point is the interior group; that is, the entire assemblage, encompassing every way one select object, around which they are clustered, is in the first place divided concentrically, at more than half the depth to which it is considered to extend, and from equidistant points being taken within the substance of the outer shell, this is divisible into four equal parts, in which those mean points are centrical, or as nearly so as the irregular figure of the group allows.

"Rejecting the assumption of one primary central object, the division of the entire assemblage would become simpler. It would be quaternary.* The middle points of each of the four segments would stand, as those of the exterior distribution did, at the solid angles of a tetrahedron within the sphere above supposed. The whole assemblage may be conceived, first as a cluster of four balls, one resting upon three others, and then the interstices and remaining space, to complete a circumscribed sphere, are shared among the four.

"But the mind is prone to fix upon some primary object of its attention, which becomes the centre of comparison for every other, and on this account it is that the quinary arrangement is practically a more natural one than the quaternary.

"I am here supposing an assemblage consisting of a single sample of every species; for species alone is in truth acknowledged by nature, and every larger group, whether genus, order or class, or family or tribe, is but the creature of abstraction.

"In the middle of this great cluster, I imagine that object placed with which they are contrasted. Around it are arranged other objects, nearer or remoter, according to the degree of their resemblance or affinity to it; for it is the type of a group comprising such as are most comformable. It is encompassed by similar groups consisting of such as bear less affinity to it; but have in like manner relation to other objects, selected as types, one in the midst of every such exterior cluster. I say the smallest number of such surrounding groups that can be assumed is four, the respective centres of them being equidistant from each other, and situated at like distances (less however than their mutual interval) from the common centre of the entire assemblage. This then is the simplest natural arrangement; and hence it is, that the quinary distribution is that which is most affected in the classification of natural objects.

"Were the utmost perfection in arrangement attainable, the chosen common centre of the whole ought to be truly in the middle, and the selected centres of an exterior would be equally distant from it, and alike remote from each other.

"There would not be greater affinity between any two than between the rest; neither between any two of the groups, accounting by the axes of the diameters or cardinal points of the four quarters thereof. And before it arriveth unto the same point again, it maketh five circles equal unto itself, in each progress from those quarters absolving an equal circle.

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* Ocken maintains that four is the determinate number in natural distribution. *Linn. Tr.* xiv, p. 56.

By the same number doth Nature divide the circle of the sea star,[1] and in that order and number disposeth these elegant semi-circles, or dental sockets and eggs in the sea hedgehog. And no mean observations hereof there is in the mathematicks of the neatest retiary spider, which concluding in forty-four circles, from five semidiameters beginneth that elegant texture.

And after this manner both lay the foundation of the circular branches of the oak, which being five-cornered in the tender annual sprouts, and manifesting upon incision the signature of a star, is after made circular, and swelled into a round body; which practice of Nature is become a point of art, and makes two problems in Euclid.* But the bramble which sends forth shoots and prickles from its angles, maintain its pentagonal figure, and the unobserved signature of a handsome porch within it. To omit the five small buttons dividing the circle of the ivy berry, and the five characters in the winter stalk of the walnut, with many other observables, which cannot escape the eyes of signal discerners; such as know where to find Ajax his name in *Delphinium*, or Aaron's mitre in henbane.

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* *Elem.* lib. 4.

nor between their assumed middle points. But if there be any notable deviation from the greatest precision, from extreme accuracy of selection, the assumed middle point of the whole assemblage will in fact be eccentric; or some one at least of the selected centres of groups will be out of the right place. Now as the utmost precision can hardly be deemed attainable, it will necessarily follow that the assumed common centre inclines more towards one of the exterior than towards the rest; and therefore it ordinarily, not to say invariably, happens that in the quinary distribution, one cluster, comprising other three, is aberrant; that is, one of the five divisions being typical, is nearly but not perfectly central; another is conform, being proximate; three others are dissimilar and remote.

"Allusion has been made to the analogy which an indefinitely numerous assemblage of objects presents to indefinitely vast space contemplated as from a central point. It has been assimilated to the celestial sphere. Were the stars distributed throughout space at equal distances, and did they possess equal power of illumination, such a distribution would offer to the view 12 stars of the first magnitude, being those nearest to us, equally distant from each other, and nearly the same from our sun. Their relative positions would make the solid angles of an icosahedron circumscribing the solar system. In like manner, the middle points of exterior groups encompassing the interior one, and equidistant from its centre, and from each other, should be twelve in number; and this therefore is in fact the proper number of a strictly natural arrangement of objects with relation to one common object of comparison. The normal group is one; the aberrant 12, classed for more ready apprehension in form of subordinate clusters. The interior group is single; the exterior assemblage twelve-fold. This then appears to be the natural arrangement, and the subdivision of the inner cluster and grouping of outer ones, whence quinary arrangements result in both instances, are properly artificial."—*Zool. Journ.* vol. iv. p. 43—46.—*Br.*

[1] *circle of the sea star.*] See note on this subject in p. 439, note 1.

Quincuncial forms and ordinations are also observable in animal figurations. For to omit the *hyoides* or throat bone of animals, the *furcula* or merry thought in birds, which supporteth the *scapulæ*, affording a passage for the wind pipe and the gullet, the wings of flies, and disposure of their legs in their first formation from maggots, and the position of their horns, wings, and legs, in their aurelian cases and swaddling clouts,—the back of the *cimex arboreus*, found often upon trees and lesser plants, doth elegantly discover the Burgundian decussation; and the like is observable in the belly of the *notonecton*, or water beetle, which swimmeth on its back, and the handsome *rhombus* of the sea poult, or werrel, on either side the spine.

The sexangular cells in the honey combs of bees are disposed after this order (much there is not of wonder in the confused houses of pismires, though much in their busy life and actions), more in the edificial palaces of bees and monarchical spirits, who make their combs six cornered, declining a circle, (whereof many stand not close together, and completely fill the area of the place); but rather affecting a six sided figure, whereby every cell affords a common side unto six more, and also a fit receptacle for the bee itself, which gathering into a cylindrical figure, aptly enters its sexangular house, more nearly approaching a circular figure, than either doth the square or triangle; and the combs themselves so regularly contrived, that their mutual intersections make three lozenges at the bottom of every cell; which severally regarded make three rows of neat rhomboidal figures, connected at the angles, and so continue three several chains throughout the whole comb.

As for the *favago*, found commonly on the sea shore, though named from a honey comb, it but rudely makes out the resemblance, and better agrees with the round cells of humble bees. He that would exactly discern the shop of a bee's mouth, needs observing eyes, and good augmenting glasses; wherein is discoverable one of the neatest pieces in nature, and he must have a more piercing eye than mine who finds out the shape of bulls' heads in the guts of drones pressed out behind, according to the experiment of Gomesius,* wherein, notwithstanding, there seemeth somewhat which might incline a pliant fancy to credulity of similitude.

A resemblance hereof there is in the orderly and rarely disposed cells made by flies and insects, which we have often found fastened about small sprigs, and in those cottonnary and woolly pillows which sometimes we meet with fastened unto leaves, there is included an elegant net-work texture, out of which come many small flies. And some resemblance there is of this order in the eggs of some butterflies and moths, as they stick upon leaves and other substances, which being dropped from behind, nor directed by the eye, doth neatly declare how nature geometrizeth and observeth order in all things.

A like correspondency in figure is found in the skins and outward teguments of animals, whereof a regardable part are beautiful by this texture. As the backs of several snakes and serpents, elegantly remarkable in the *aspis*, and the dart-snake, in the *chiasmus* and larger decussations upon the back of the rattle snake, and in the close and finer texture of the *mater formicarum*, or snake that delights in ant hills; whereby upon approach of outward injuries, they can raise a thicker phalanx on their backs, and handsomely contrive themselves into all kinds of flexures: whereas their bellies are commonly covered with smooth semicircular divisions, as best accommodable unto their quick and gilding motion.

This way is followed by nature in the peculiar and remarkable tail of the beaver, wherein the scaly particles are disposed somewhat after this order, which is the plainest resolution of the wonder of Bellonius, while he saith with incredible artifice hath nature framed the tail or oar of the beaver: where by the way we cannot but wish a model of their houses, so much extolled by some describers: wherein since they are so bold as to venture upon three stages, we might examine their artifice in the contignations, the rule and order in the compartitions; or whether that magnified structure be any more than a rude rectangular pile or mere hovel-building.

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* *Gom. de Sale.*

Thus works the hand of nature in the feathery plantation about birds. Observable in the skins of the breast,* legs, and pinions of turkeys, geese, and ducks, and the oars or finny feet of water-fowl: and such a natural net is the scaly covering of fishes, of mullets, carps, tenches, &c., even in such as are excoriable and consist of smaller scales, as bretts, soles, and flounders. The like reticulate grain is observable in some Russia leather.[2] To omit the ruder figures of the *ostration*, the triangular or cunny-fish, or the pricks of the sea-porcupine.

The same is also observable in some part of the skin of man, in habits of neat texture, and therefore not unaptly compared unto a net: we shall not affirm that from such grounds, the Egyptian embalmers imitated this texture, yet in their linen folds the same is still observable among their neatest mummies, in the figures of Isis and Osyris, and the tutelary spirits in the Bembine table. Nor is it to be overlooked how Orus, the hieroglyphick of the world, is described in a net-work covering, from the shoulder to the foot. And (not to enlarge upon the cruciated character of Trismegistus, or handed crosses,† so often occurring in the needles of Pharoah, and obelisks of antiquity,) the *Statuæ Isiacæ*, and little idols, found about the mummies,[3] do make a decussation of Jacob's cross, with their arms, like that on the head of Ephraim and Manasses, and this *decussis* is also graphically described between them..

This reticulate or net-work was also considerable in the inward parts of man, not only from the first *subtegmen* or warp of his formation, but in the netty *fibres* of the veins and vessels of life; wherein according to common anatomy the right and transverse *fibres* are decussated by the oblique *fibres*; and so must frame a reticulate and quincuncial figure by their obliquations, emphatically extending that elegant expression of Scripture "Thou hast curiously embroidered me," thou hast wrought me up after the finest way of texture, and as it were with a needle.

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* Elegantly conspicuous on the inside of the stripped skins of the dive-fowl, of cormorant, gosshonder, *(goosander,)* weasel, loon, &c.

† *Cruces ansatæ*, being held by a finger in the circle.

[2] *The like reticulate grain in some Russia leather.*] This grain is, however, artificially produced, and not, as the author seems to suppose, natural.

[3] *little idols, &c.*] See *Burder's Oriental Customs*, No. 76.—*Jeff.*

Nor is the same observable only in some parts, but in the whole body of man, which upon the extension of arms and legs, doth make out a square, whose intersection is at the genitals. To omit the fantastical quincunx in Plato of the first hermaphrodite or double man, united at the loins, which Jupiter after divided.

A rudimental resemblance hereof there is in the cruciated and rugged folds of the *reticulum*, or net-like ventricle of ruminating horned animals, which is the second in order, and culinarily called the honey-comb. For many divisions there are in the stomach of several animals: what number they maintain in the *scarus* and ruminating fish, common description, or our own experiment hath made no discovery; but in the ventricle of porpuses there are three divisions; in many birds a crop, gizzard, and little receptacle before it; but in cornigerous animals, which chew the cud, there are no less than four* of distinct position and office.

The *reticulum* by these crossed cells, makes a further digestion, in the dry and exsuccous part of the aliment received from the first ventricle. For at the bottom of the gullet there is a double orifice; what is first received at the mouth descendeth into the first and greater stomach, from whence it is returned into the mouth again; and after a fuller mastication, and salivous mixture, what part thereof descendeth again in a moist and succulent body, slides down the softer and more permeable orifice, into the *omasus* or third stomach; and from thence conveyed into the fourth, receives its last digestion. The other dry and exsuccous part after rumination by the larger and stronger orifice beareth into the first stomach, from thence into the *reticulum*, and so progressively into the other divisions. And therefore in calves newly calved, there is little or no use of the two first ventricles, for the milk and liquid aliment slippeth down the softer orifice, into the third stomach; where making little or no stay, it passeth into the fourth, the seat of the *coagulum*, or runnet, or that division of stomach which seems to bear the name of the whole, in the Greek translation of the priest's fee, in the sacrifice of peace-offerings.

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* *Magnus venter, reticulum, omasus, abomasus.—Aristot.*

As for those rhomboidal figures made by the cartilagineous parts of the weazand, in the lungs of great fishes, and other animals, as Rondeletius discovered, we have not found them so to answer our figure as to be drawn into illustration; something we expected in the more discernable texture of the lungs of frogs, which notwithstanding being but two curious bladders not weighing above a grain, we found interwoven with veins, not observing any just order. More orderly situated are those cretaceous and chalky concretions found sometimes in the bigness of a small vetch on either side their spine; which being not agreeable unto our order, nor yet observed by any, we shall not here discourse on.

But had we found a better account and tolerable anatomy of that prominent jowl of the spermaceti whale than questuary operation,* or the stench of the last cast upon our shore permitted, we might have perhaps discovered some handsome order in those net-like seases and sockets, made like honeycombs, containing that medical matter.

Lastly, the incession or local motion of animals is made with analogy unto this figure, by decussative diametrals, quincuncial lines and angles. For, to omit the enquiry how butterflies and breezes move their four wings, how birds and fishes in air and water move by joint strokes of opposite wings and fins, and how salient animals in jumping forward seem to arise and fall upon a square base,—as the station of most quadrupeds is made upon a long square, so in their motion they make a *rhomboides;* their common progression being performed diametrally, by decussation and cross advancement of their legs, which not observed, begot that remarkable absurdity in the position of the legs of Castor's horse in the capitol. The snake which moveth circularly makes his spires in like order, the convex and concave spirals answering each other at alternate distances. In the motion of man the arms and legs observe this thwarting position, but the legs alone do move quincuncially by single angles with some resemblance of a V measured by successive advancement from each foot, and the angle of indenture greater or less, according to the extent or brevity of the stride.

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* 1652, described in our *Pseudo. Epidem.*

Studious observators may discover more analogies in the orderly book of nature, and cannot escape the elegancy of her hand in other correspondencies.[4] The figures of nails and crucifying appurtenances, are but precariously made out in the *granadilla* or flower of Christ's passion: and we despair to behold in these parts that handsome draught of crucifixion in the fruit of the Barbadopine. The seminal spike of *phalaris*, or great shaking grass, more nearly answers the tail of a rattle-snake, than many resemblances in Porta. And if the man orchis* of Columna be well made out, it excelleth all analogies. In young walnuts cut athwart, it is not hard to apprehend strange characters; and in those of somewhat elder growth, handsome ornamental draughts about a plain cross. In the root of *osmond* or water-fern, every eye may discern the form of a half-moon, rainbow, or half the character of *pisces*. Some find Hebrew, Arabick, Greek, and Latin characters in plants; in a common one among us we seem to read *Acaia, Viviu, Lilil.*[5]

Right lines and circles make out the bulk of plants. In the parts thereof we find heliacal[6] or spiral roundles, volutas,

* *Orchis Anthropophora, Fabii Columnæ.*

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[4] *Studious observators, &c.*] In *MS. Sloan.* 1847, occurs the following passage:—"Considerations are drawne from the signatures in the rootes of plants resembling sometimes orderly shapes and figures; those are made according as the pores or ascending fibres are posited in the plants. Wherby alimental juce and stablishing fibre ascend. The brake makes an handsome figure of a tree; the osmund royall a semicircle or raynebowe; the sedge a neate print; the annual surcles of the oake a five poynted starre according to the figure of the twigge; the stalk of the figge a triangle; carrots and many other a flosculous figure; the first rudiments of the sprouts of pyonie give starres of an handsome posie; the budds of plants with large leaves and many flowers cutt, shew the artificiall complications in a wonderfull manner."

[5] *Acaia, &c.*] See vol. i, 366.

[6] *heliacal.*] Like a *helix*.

conical sections, circular pyramids, and frustrums of Archimedes. And cannot overlook the orderly hand of nature, in the alternate succession of the flat and narrower sides in the tender shoots of the ash, or the regular inequality of bigness in the five-leaved flowers of henbane, and something like in the calicular leaves of tutson.[7] How the spots of *persicaria* do manifest themselves between the sixth and tenth rib. How the triangular cap in the stem or *stylus* of tulips doth constantly point at three outward leaves. That spicated flowers do open first at the stalk. That white flowers have yellow thrums or knops. That the nib of beans and peas do all look downward, and so press not upon each other. And how the seeds of many pappous[8] or downy flowers locked up in sockets after a *gomphosis* or mortise-articulation, diffuse themselves circularly into branches of rare order, observable in *tragopogon* or goats-beard, conformable to the spider's web, and the *radii* in like manner telarly interwoven.

And how in animal natures, even colours hold correspondencies, and mutual correlations. That the colour of the caterpillar will shew again in the butterfly, with some latitude is allowable. Though the regular spots in their wings seem but a mealy adhesion, and such as may be wiped away, yet since they come in this variety, out of their cases, there must be regular pores in those parts and membrances, defining such exudations.[9]

That Augustus * had native notes on his body and belly, after the order and number in the stars of Charles' wain, will not seem strange unto astral physiognomy, which accordingly considereth moles in the body of man; or physical observators, who from the position of moles in the face, reduce

* *Suet. in vit. Aug.*

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[7] *tutson.*] See Mr. Hervey's ingenious interpretations of the curious structure of the passion-flower. *Reflections on a Flower Garden.—Jeff.*

[8] *pappous,*] downy.

[9] *though the regular spots in their wings seem but a mealy adhesion, &c.*] The use of the microscope had not become sufficiently general among naturalists, at the time this tract was composed, to enable them to acquire a knowledge of the true nature of the scales which cover the wings of the lepidopterous insects, constituting this "mealy adhesion." These beautiful though minute scales form part of the essential organization of the animals invested with them, and consequently must be as definite in their relations as any other portion of their economy.—*Br.*

them to rule and correspondency in other parts. Whether after the like method medical conjecture may not be raised upon parts inwardly affected; since parts about the lips are the critical seats of pustules discharged in agues; and scrofulous tumours about the neck do so often speak the like about the mesentery, may also be considered.

The russet neck in young lambs * seems but adventitious, and may owe its tincture to some contaction in the womb: but, that if sheep have any black or deep russet in their faces, they want not the same about their legs and feet; that black hounds have mealy mouths and feet; that black cows which have any white in their tails, should not miss of some in their bellies; and if all white in their bodies, yet if black mouthed, their ears and feet maintain the same colour;—are correspondent tinctures not ordinarily failing in nature, which easily unites the accidents of extremities, since in some generations she transmutes the parts themselves, while in the *aurelian metamorphosis* the head of the canker becomes the tail of the butterfly.[1] Which is in some way not beyond the contrivance of art, in submersions and inlays, inverting the extremes of the plant, and fetching the root from the top, and also imitated in handsome columnary work, in the inversion of the extremes; wherein the capital, and the base, hold such near correspondency.

In the motive parts of animals may be discovered mutual proportions; not only in those of quadrupeds, but in the thigh-bone, leg, foot-bone, and claws of birds.[2] The legs of

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* Which afterwards vanisheth.

[1] *in the aurelian metamorphosis, &c.*] This is a mistake. Browne must have made his observation on some species, the exterior of whose chrysalis he had *misinterpreted*; and thus, keeping watch on that part which he had erroneously decided to be occupied by the tail of the "canker," and seeing in due time the head of the butterfly make its appearance at that end, he came to his conclusion, without questioning the premises on which it was founded.

[2] *In the motive parts of animals may be discovered mutual proportions, &c.*] That all the parts of animals, and especially those of the human frame, maintain in their dimensions a certain mutual relation among themselves, has long been generally known: indeed, the very fact of the bi-lateral symmetry in which the bodies of animals are obviously formed,—a symmetry especially observable in the *Vertebrata* and in the *Annulosa*, but lately shown, by Dr. Agassiz, (*Lond. and Edinb. Phil. Mag.* vol. v, p. 369) to characterize also the *Radiata*, such as the starfish and the echinus,—would alone be sufficient to demonstrate the existence of such mutual proportions.

A very few numerical relations, however, and those almost confined to the human frame, had been definitely made spiders are made after a *sesqui-tertian* proportion, and the long legs of some locusts, double unto some others. But the internodial parts of vegetables, or spaces between the joints, are contrived with more uncertainty; though the joints themselves, in many plants, maintain a regular number.

out, though many obscure notions on the subject had been floating in the minds of physiologists and natural historians, until the reading before the Linnean Society, in April, 1830, of a paper by Dr. Walter Adam, of Edinburgh, on the osteological symmetry of the camel, *Camelus Bactrianus*, Linn. The objects of this paper, (*Trans. of Linn. Soc.* vol. xvi, p. 525—585,) the author states in his exordium, are, to state correctly the dimensions of the several bones of a large quadruped; to trace the mutual relations of those dimensions; and thus to exemplify the general osteological form in animals of similar configuration. Agreeably to these objects, he details the proportionate dimensions of the bones constituting the skeleton of the camel, (designating the bones according to the anatomical nomenclature of Dr. Barclay,) in the following order; viz. the head; the vertebræ, classified in the usual manner; the sacrum; the tail; the ribs; the cavity of the thorax, and the sternum; the scapula; the pelvis, and the limbs. The various proportions are minutely exhibited in a series of tables, which occupies forty-seven quarto pages. The height, the breadth, and the basilar length of the cranium, Dr. Adam states, are very nearly in the proportion 1, 2, 4. The common difference in the palatal, the coronal, the basilar, and the extreme length of the cranium, is the breadth of the cranium at the temporal fossæ: these lengths, in the animal examined, being, respectively, 12, 15, 18, 21, inches. The lateral extent of the atlas is equal to the distance between the inner margins of the orbits. The greatest elevation of the spine is at the third dorsal vertebra; the extreme length of that bone equalling the greatest extent of the pelvis towards the mesial plane. The longest of the twelve ribs are the seventh and the eighth; their length equals the greatest extent of the scapula. The sum of the lengths of the twelve ribs is about ten times that of the longest rib. The dimensions of the cavity of the chest agree with those of the separate bones of the body; thus, the greatest width of the chest is equal to the greatest length of the head. The breadths of the pelvis *rostrad*, (measured towards the front,) from the acetabula, are even numbers of proportional parts: its breadths, *caudad* (measured towards the tail,) from the acetabula, including the acetabula breadth, itself, are odd numbers of proportional parts. The chief dimensions of the pelvis are identical with the chief dimensions of the head; thus, for example, the greatest dimension of the pelvis, being through the mesial plane, is equal to the greatest length of the head. The lengths of the four long bones of the atlantial (fore) limbs, independent of processes and elevations, are consecutively as the numbers 22, 28, 20, 6,—sum 76. The similar lengths of the four long bones of the sacral (hind) limbs are consecutively as the numbers 28, 23, 20, 5,—sum 76. These relations are selected in order to impart to the reader some idea of the results of Dr. Adam's valuable observations: for the others, equally remarkable, and very considerable in number, the reader is referred to the original memoir. Dr. Adam concludes the general statement of his results with the following summary. "From what has been now stated, it appears that throughout the dimensions of the bones of the Bactrian camel there is such an agreement, that many of the dimensions are continued proportionals, and that the mutual relations of nearly all admit of a very simple expression.

"Corresponding relations have been found to prevail in the bones of every species of animal examined by the writer of this paper. The prosecution of his investigations has been thwarted by unforeseen obstacles. Under more favourble circumstances, should what has been observed in the camel be fully verified in other animals, it will result:

"1. That though the hardness and durability of bones peculiarly fit them for enquiries similar to that detailed in

In vegetable composure, the unition of prominent parts seems most to answer the *apophyses* or processes of animal bones, whereof they are the produced parts or prominent explanations. And though in the parts of plants which are not ordained for motion, we do not expect correspondent articulations; yet in the setting on of some flowers and seeds in their sockets, and the lineal commissure of the pulp of several seeds, may be observed some shadow of the harmony, some show of the *gomphosis*[3] or mortise-articulation.

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these pages; yet as the bones always arise from, and are moulded by the softer tissues, the whole organic system is determinable in its proportions.

"2. That the relation of the forms of extinct animals to the forms of animals now living, the affinities of species and genera,—the simultaneous growth of the parts of the same animal, and the rates of such growth comparatively in other animals; the improvement of domestic races,—even the structure and development of the human frame,—are all matters both of physiological and of numerical study.

"3. That zoology is, to an equal extent with the departments of knowledge that regard inanimate things, susceptible of a classification established on the sure basis of number."

In 1833 and 1834, Dr. Adam communicated, to the Royal Society, two papers extending his observations to the osteology of the human subject; of these, which have not yet been published, the only printed notices have been given in the *Lond. and Edinb. Phil. Mag.* vol. iii, p. 457, and vol. vi, p. 57. In these papers, which relate to the comparative osteological forms in the adult European male and female of the human species, he gives the results of a great number of measurements of the dimensions of the different bones composing the adult human skeleton, in the male and in the female sex respectively; and he also gives linear representations of various dimensions of the bones, both male and female, with a view to facilitate the comparison of the human frame with that of other animals, and reduce it to definite laws. He states that many of the rectilinear dimensions of human bones appear to be multiples of one unit, namely, the breadth of the cranium directly over the external passage of the ear; a dimension which he has found to be the most invariable in the body. No division of that dimension was found by Dr. Adam, to measure the other dimensions so accurately as that by seven, or its multiples. Of such seventh parts there appear to be twelve in the longitudinal extent of the back, and ninety-six in the height of the whole body. Adopting a scale of which the unit is half a seventh, or the 14th part of this line, being generally about the third of an inch, he states at length, in multiples of this unit, the dimensions, in different directions, of almost every bone in the skeleton; noting more especially the differences that occur in those of the two sexes. The conclusion which he deduces from his inquiry is, that every bone in the body exhibits certain modifications, according to the sex of the individual. To this summary of the results obtained by Dr. Adam, I will only add, that there are many reasons, *a priori*, both psychological and physiological, why such relations as have been observed by him both in animals and in man, should be expected, or rather should be certainly believed, to have existence. To notice more particularly one point:—that every bone in the human body, and indeed every organ and anatomically constituent part, must differ in the sexes, however minute the difference may be, is a position which is supported by all we know, whether from science or from revelation, of the human mental and corporeal constitution; and that corresponding differences must exist in the sexes of animals will necessarily follow. —*Br.*

[3] *gomphosis.*] A mode of articulation by which one bone is fastened into another like a nail,—as a tooth in the socket.

As for the *diarthrosis*[4] or motive articulation, there is expected little analogy; though long-stalked leaves do move by long lines, and have observable motions, yet are they made by outward impulsion, like the motion of pendulous bodies, while the parts themselves are united by some kind of *symphysis* unto the stock.

But standing vegetables, void of motive articulations, are not without many motions. For, besides the motion of vegetation upward, and of radiation unto all quarters, that of contraction, dilatation, inclination, and contortion, is discoverable in many plants. To omit the rose of Jericho, the ear of rye, which moves with change of weather, and the magical spit, made of no rare plants, which winds before the fire, and roasts the bird without turning.

Even animals near the classis of plants, seem to have the most restless motions. The summer-worm of ponds and plashes, makes a long waving motion, the hairworm seldom lies still. He that would behold a very anomalous motion, may observe it in the tortile and tiring strokes of gnatworms.*

CHAPTER IV.

As for the delights, commodities, mysteries, with other concernments of this order, we are unwilling to fly them over, in the short deliveries of Virgil, Varro, or others, and shall therefore enlarge with additional ampliations.

By this position they had a just proportion of earth, to supply an equality of nourishment. The distance being ordered, thick or thin, according to the magnitude or vigorous attraction of the plant, the goodness, leanness or propriety of the soil: and therefore the rule of Solon, concerning the territory of Athens, not extendible unto all; allowing the distance of six foot unto common trees, and nine for the fig and olive.

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* Found often in some form of red maggot in the standing waters of cisterns in the summer.

[4] *diarthrosis.*] The moveable connexion of bones with each other, by joints.

They had a due diffusion of their roots on all or both sides, whereby they maintained some proportion to their height, in trees of large radication. For that they strictly make good their *profundeur* or depth unto their height, according to common conceit, and that expression of Virgil,* though confirmable from the plane tree in Pliny, and some few examples, is not to be expected from the generality of trees almost in any kind, either of side-spreading, or tap roots;[2] except we measure them by lateral and opposite diffusions: nor commonly to be found in *minor* or herby plants; if we except sea-holly, liquorice, sea-rush, and some others.

They had a commodious radiation in their growth, and a due expansion of their branches, for shadow or delight. For trees thickly planted, do run up in height and branch with no expansion, shooting unequally or short, and thin upon the neighbouring side. And therefore trees are inwardly bare, and spring and leaf from the outward and sunny side of their branches.

Whereby they also avoided the peril of συνολεθρισμὸς or one tree perishing with another, as it happeneth oft times from the sick *effluviums* or entanglements of the roots falling foul with each other. Observable in elms set in hedges, where if one dieth, the neighbouring tree prospereth not long after.

In this situation, divided into many intervals and open unto six passages, they had the advantage of a fair perflation from winds, brushing and cleansing their surfaces, relaxing and closing their pores unto due perspiration. For that they afford large *effluviums*, perceptible from odours, diffused at great distances, is observable from onions out of the earth, which though dry, and kept until the spring, as they shoot forth large and many leaves, do notably abate of their weight; and mint growing in glasses of water, until it arriveth unto the weight of an ounce, in a shady place, will sometimes exhaust a pound of water. And as they send much forth, so may they receive somewhat in; for beside the common way and road of reception by the root, there may be a refection and imbibition from without, for gentle showers refresh plants, though they enter not their roots, and the good and bad *effluviums* of vegetables promote or debilitate each other. So *epithymum* and dodder, rootless and out of the ground, maintain themselves, upon thyme, ivory, and plants whereon they hang; and ivy, divided from the root, we have observed to live some years, by the cirrous parts commonly conceived but as tenacles and holdfasts unto it. The stalks of mint cropt from the root, stripped from the leaves, and set in glasses with the root end upward, and out of the water, we have observed to send forth sprouts, and leaves without the aid of roots, and *scordium* to grow in like manner, the leaves set downward in water. To omit several sea plants, which grow on single roots from stones, although in very many there are side shoots and fibres, beside the fastening root.

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* *Quantum vertice ad auras Æthereas, tantum radice ad Tartara tendit.*

[2] *For that they strictly, &c.*] In *MS. Sloan.* 1882, occurs the following similar passage:—"But their progression and motion in growth is not equall; the root making an earlier course in the length or multitude of fibres, according to the law of its species, and as it is to afford a supportation or nourishment unto the ascending parts of the plants; but in progression of increase, the stalk commonly outstrips the root, and even in trees the common opinion is questionable;—as is expressed, *quantum vertice ad auras Ætherias, tantum radice ad Tartara tendit.*

By this open position they were fairly exposed unto the rays of moon and sun, so considerable in the growth of vegetables. For though poplars, willows, and several trees be made to grow about the brinks of Acheron, and dark habitations of the dead; though some plants are content to grow in obscure wells, wherein also old elm pumps afford sometimes long bushy sprouts, not observable in any above ground; and large fields of vegetables are able to maintain their verdure at the bottom and shady part of the sea, yet the greatest number are not content without the actual rays of the sun, but bend, incline, and follow them, as large lists of solisequious or sun following plants; and some observe the method of its motion in their own growth and conversion, twining towards the west by the south,* as briony, hops, woodbine, and several kinds of bindweed, which we shall more admire, when any can tell us, they observe another motion, and twist by the north at the antipodes. The same plants rooted against an erect north wall full of holes, will find a way through them to look upon the sun; and in tender plants from mustard seed, sown in the winter, and in a pot of earth placed inwardly against a south window, the tender stalks of two leaves arose not erect, but bending towards the window, nor looking much higher than the meridian sun; and if the pot were turned they would work themselves into their former declinations, making their conversion by the east. That the leaves of the olive and some other trees solstitially turn, and precisely tell us when the sun is entered Cancer, is scarce expectable in any climate, and Theophrastus warily observes it. Yet somewhat thereof is observable in our own, in the leaves of willows and sallows, some weeks after the solstice. But the great convolvulus, or white flowered bindweed, observes both motions of the sun; while the flower twists equinoctially from the left hand to the right, according to the daily revolution, the stalk twineth ecliptically from the right to the left, according to the annual conversion.[3]

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* *Flectat ad Aquilonem, et declinit ad Austrum,* is Solon's description of the motion of the sun.—*Author's note, from MS. Sloan.* 1847.

Some commend the exposure of these orders unto the western gales, as the most generative and fructifying breath of heaven. But we applaud the husbandry of Solomon, whereto agreeth the doctrine of Theophrastus: "Arise, O north wind, and blow, thou south, upon my garden, that the spices thereof may flow out." For the north wind closing the pores, and shutting up the effluviums, when the south doth after open and relax them, the aromatical gums do drop, and sweet odours fly actively from them; and if his garden had the same situation, which maps and charts afford it, on the east side of Jerusalem, and having the wall on the west; these were the winds unto which it was well exposed.

By this way of plantation they increased the number of their trees, which they lost in quaternios and square orders, which is a commodity insisted on by Varro, and one great intent of Nature, in this position of flowers and seeds in the elegant formation of plants, and the former rules observed in natural and artificial figurations.

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[3] *annual conversion.*] From *MS. Sloan.* 1847, the following passage may be added here:—"Of the orchis or dog-stones, one is generally more lusty, plump, and fuller then the other, and the fullest is most commended. The reason is, the one which is fullest shootes; the stalk seems most directly to proceed from that one; the other is but as it were appendant, and doth but slight office to the nourishment; but whether they have any regular position north or south, or east and west, my experience doth not discover."

Whether in this order, and one tree in some measure breaking the cold and pinching gusts of winds from the other, trees will not better maintain their inward circles, and either escape or moderate their eccentricities, may also be considered. For the circles in trees are naturally concentrical, parallel unto the bark, and unto each other, till frost and piercing winds contract and close them on the weather side, the opposite semi-circle widely enlarging, and at a comely distance, which hindereth oft-times the beauty and roundness of trees, and makes the timber less serviceable, whilst the ascending juice, not readily passing, settles in knots[4] and inequalities; and therefore it is no new course of agriculture, to observe the native position of trees according to north and south in their transplantations.[4]

The same is also observable under ground in the circinations and spherical rounds of onions, wherein the circles of the orbs are oft times larger, and the meridional lines stand wider upon one side than the other; and where the largeness will make up the number of planetical orbs, that of Luna and the lower planets exceed the dimensions of Saturn, and the higher; whether the like be not verified in the circles of the large roots of briony and mandrakes, or why, in the knots of deal or fir, the circles are often eccentrical, although not in a plane, but vertical and right position, deserves a further enquiry.

Whether there be not some irregularity of roundness in most plants according to their position; whether some small compression of pores be not perceptible in parts which stand against the current of waters, as in reeds, bull-rushes, and other vegetables toward the streaming quarter may also be observed; and therefore such as are long and weak, are commonly contrived unto a roundness of figure, whereby the water presseth less, and slippeth more smoothly from them, and even in flags of flat figured leaves, the greater part obvert their sharper sides unto the current in ditches.

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[4] *settles, &c.*] But the knots we see in planks are sections of small branches.

[5] *transplantations.*] In *MS. Sloan.* 1847, is the following passage:—"The sap in trees observes the circle and right line. Trees being to grow up tall, were made long and strong; of the strongest columnar figure, round. The lines are strongest for the most part, and in many equidistant, as in firs; the circles homocentrical, except perverted by situation; the circles on the northern, or side exposed to cold winds, being more contracted. In the knots of fir, the right lines broken from their course do run into homocentrical circles, whether in round or oval knots."

In *MS. Sloan.* 1847, occurs also the following passage:—"Trees set under a north wall will be larger circled than that side exposed unto the weather: trees set in open high places, near the sea, will close their circles on that side which respecteth it."

But whether plants which float upon the surface of the water be for the most part of cooling qualities, those which shoot above it of heating virtues, and why? Whether *sargasso* for many miles floating upon the western ocean, or sea lettuce and *phasganium* at the bottom of our seas, make good the like qualities? Why fenny waters afford the hottest and sweetest plants, as *calamus, cyperus,* and crowfoot, and mud cast out of ditches most naturally produceth arsmart? Why plants so greedy of water so little regard oil? Why since many seeds contain much oil within them, they endure it not well without, either in their growth or production? Why since seeds shoot commonly under ground and out of the air, those which are let fall in shallow glasses, upon the surface of the water, will sooner sprout than those at the bottom; and if the water be covered with oil, those at the bottom will hardly sprout at all,[5] we have not room to conjecture?

Whether ivy would not less offend the trees in this clean ordination, and well kept paths, might perhaps deserve the question? But this were a query only unto some habitations, and little concerning Cyrus or the Babylonian territory; wherein by no industry Harpalus could make ivy grow. And Alexander hardly found it about those parts, to imitate the pomp of Bacchus. And though in these northern regions we are too much acquainted with one ivy, we know too little

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[6] *will hardly sprout at all.*] Seeds which shoot underground have still, through the porous earth and also by means of the air, dissolved in the water which is always present, ready access of oxygen, without the aid of which germination cannot take place; so that they do not in fact germinate "out of the air." The seeds let fall in shallow glasses, upon the surface of the water, sprout sooner than those at the bottom, because they have a more ready access, and a more copious supply of oxygen than the latter, and if the water be covered with oil, those at the bottom will hardly sprout at all, because the oil almost entirely precludes the access of that all-necessary principle; the small quantity dissolved in the water being quickly appropriated by the seeds, and the oil, by preventing the contact of the atmosphere with the surface of the water, rendering a further supply impossible.—*Br.*

of another, whereby we apprehend not the expressions of antiquity, the splenetick medicine * of Galen, and the emphasis of the poet, in the beauty of the white ivy.†

The like concerning the growth of misseltoe, which dependeth not only of the species, or kind of tree, but much also of the soil. And therefore common in some places, not readily found in others, frequent in France, not so common in Spain, and scarce at all in the territory of Ferrara; nor easily to be found where it is most required, upon oaks, less on trees continually-verdant. Although in some places the olive escapeth it not, requiting its detriment in the delightful view of its red berries; as Clusius observed in Spain, and Bellonius about Jerusalem. But this parasitical plant suffers nothing to grow upon it, by any way of art; nor could we ever make it grow where nature had not planted it, as we have in vain attempted by inoculation and incision, upon its native or foreign stock. And though there seem nothing improbable in the seed, it hath not succeeded by sation in any manner of ground, wherein we had no reason to despair, since we read of vegetable horns, and how ramshorns will root about Goa.

But besides these rural commodities, ‡ it cannot be meanly delectable in the variety of figures, which these orders, open and closed, do make. Whilst every inclosure makes a rhombus, the figures obliquely taken a *rhomboides,* the intervals bounded with parallel lines, and each intersection built upon a square, affording two triangles or pyramids vertically conjoined; which in the strict quincuncial order do oppositely make acute and blunt angles.

And though therein we meet not with right angles, yet every rhombus containing four angles equal unto four right, it virtually contains four right. Nor is this strange unto such as observe the natural lines of trees, and parts disposed in them. For neither in the root doth nature affect this angle, which shooting downward for the stability of the plant, doth best effect the same by figures of inclination: nor in the branches and stalky leaves, which grow most at acute angles; as declining from their head the root, and diminishing their

* *Galen. de Med. secundum loc.*

† *Hederâ formosior albâ.*

‡ *Linschoten.*

angles with their altitude; verified also in lesser plants, whereby they better support themselves, and bear not so heavily upon the stalk; so that while near the root they often make an angle of seventy parts, the sprouts near the top will often come short of thirty. Even in the nerves and master veins of the leaves the acute angle ruleth; the obtuse but seldom found, and in the backward part of the leaf, reflecting and arching about the stalk. But why oft-times one side of the leaf is unequal unto the other, as in hazel and oaks, why on either side the master vein, the lesser and derivative channels stand not directly opposite, nor at equal angles, respectively unto the adverse side, but those of one part do often exceed the other, as the wallnut and many more, deserves another enquiry.

Now if for this order we affect coniferous and tapering trees, particularly the cypress, which grows in a conical figure; we have found a tree not only of great ornament, but, in its essentials, of affinity unto this order: a solid rhombus being made by the conversion of two equicrural cones, as Archimedes hath defined. And these were the common trees about Babylon, and the East, whereof the ark was made: and Alexander found no trees so accommodable to build his navy:—and this we rather think to be the tree mentioned in the Canticles, which stricter botanology will hardly allow to be camphire.

And if delight or ornamental view invite a comely disposure by circular amputations, as is elegantly performed in hawthorns, then will they answer the figures made by the conversion of a rhombus, which maketh two concentrical circles; the greater circumference being made by the lesser angles, the lesser by the greater.

The cylindrical figure of trees is virtually contained and latent in this order; a cylinder or long round being made by the conversion or turning of a parallelogram, and most handsomely by a long square, which makes an equal, strong, and lasting figure in trees, agreeable unto the body and motive parts of animals, the greatest number of plants, and almost all roots, though their stalk be angular, and of many corners, which seem not to follow the figure of their seeds; since many angular seeds send forth round stalks, and spherical seeds arise from angular spindles, and many rather conform unto their roots, as the round stalks of bulbous roots and in tuberous roots stems of like figure. But why, since the largest number of plants maintain a circular figure, there are so few with teretous or long round leaves? Why coniferous trees are tenuifolious or narrow-leafed? Why plants of few or no joints have commonly round stalks? Why the greatest number of hollow stalks are round stalks; or why in this variety of angular stalks the quadrangular most exceedeth, were too long a speculation? Mean while obvious experience may find, that in plants of divided leaves above, nature often beginneth circularly in the two first leaves below, while in the singular plant of ivy she exerciseth a contrary geometry, and beginning with angular leaves below, rounds them in the upper branches.

Nor can the rows in this order want delight, as carrying an aspect answerable unto the *dipteros hypæthros*, or double order of columns open above; the opposite ranks of trees standing like pillars in the *cavedia* of the courts of famous buildings, and the porticoes of the *templa subdialia* of old; somewhat imitating the *peristylia* or cloister-buildings, and the *exedræ* of the ancients, wherein men discoursed, walked, and exercised; for that they derived the rule of columns from trees, especially in their proportional diminutions, is illustrated by Vitruvius from the shafts of fir and pine. And, though the inter-arboration do imitate the *areostylos*, or thin order, not strictly answering the proportion of intercolumniations: yet in many trees they will not exceed the intermission of the columns in the court of the Tabernacle; which being an hundred cubits long, and made up by twenty pillars, will afford no less than intervals of five cubits.

Beside, in this kind of aspect the sight being not diffused, but circumscribed between long parallels and the ἐπισκιασμὸς and adumbration from the branches, it frameth a penthouse over the eye, and maketh a quiet vision:—and therefore in diffused and open aspects, men hollow their hand above their eye, and make an artificial brow, whereby they direct the dispersed rays of sight, and by this shade preserve a moderate light in the chamber of the eye; keeping the pupilla plump and fair, and not contracted or shrunk, as in light and vagrant vision.

And therefore providence hath arched and paved the great house of the world, with colours of mediocrity, that is, blue and green, above and below the sight, moderately terminating the *acies* of the eye. For most plants, though green above ground, maintain their original white below it, according to the candour of their seminal pulp: and the rudimental leaves do first appear in that colour, observable in seeds sprouting in water upon their first foliation. Green seeming to be the first supervenient, or above-ground complexion of vegetables, separable in many upon ligature or inhumation, as succory, endive, artichokes, and which is also lost upon fading in the autumn.

And this is also agreeble unto water itself, the alimental vehicle of plants, which first altereth into this colour. And, containing many vegetable seminalities, revealeth their seeds by greenness; and therefore soonest expected in rain or standing water, not easily found in distilled or water strongly boiled; wherein the seeds are extinguished by fire and decoction, and therefore last long and pure without such alteration, affording neither uliginous coats, gnat-worms, *acari*, hair-worms, like crude and common water; and therefore most fit for wholesome beverage, and with malt, makes ale and beer without boiling. What large water-drinkers some plants are, the canary-tree and birches in some northern countries, drenching the fields about them, do sufficiently demonstrate. How water itself is able to maintain the growth of vegetables, and without extinction of their generative or medical virtues,—besides the experiment of Helmont's tree, we have found in some which have lived six years in glasses. The seeds of scurvy-grass growing in water-pots, have been fruitful in the land; and *asarum* after a year's space, and once casting its leaves in water, in the second leaves hath handsomely performed its vomiting operation.

Nor are only dark and green colours, but shades and shadows contrived through the great volume of nature, and trees ordained not only to protect and shadow others, but by their shades and shadowing parts, to preserve and cherish themselves: the whole radiation or branchings shadowing the stock and the root;—the leaves, the branches and fruit, too much exposed to the winds and scorching sun. The calicular leaves inclose the tender flowers, and the flowers themselves lie wrapt about the seeds, in their rudiment and first formations, which being advanced, the flowers fall away; and are therefore contrived in variety of figures, best satisfying the intention; handsomely observable in hooded and gaping flowers, and the butterfly blooms of leguminous plants, the lower leaf closely involving the rudimental cod, and the alary or wingy divisions embracing or hanging over it.

But seeds themselves do lie in perpetual shades, either under the leaf, or shut up in coverings; and such as lie barest, have their husks, skins, and pulps about them, wherein the nib and generative particle lieth moist and secured from the injury of air and sun. Darkness and light hold interchangeable dominions, and alternately rule the seminal state of things. Light unto Pluto* is darkness unto Jupiter. Legions of seminal ideas lie in their second chaos and Orcus of Hippocrates; till putting on the habits of their forms, they shew themselves upon the stage of the world, and open dominion of Jove. They that held the stars of heaven were but rays and flashing glimpses of the empyreal light, through holes and perforations of the upper heaven, took off the natural shadows of stars; while according to better discovery the poor inhabitants of the moon have but a polary life, and must pass half their days in the shadow of that luminary.

Light that makes things seen, makes some things invisible, were it not for darkness and the shadow of the earth, the noblest part of the creation had remained unseen, and the stars in heaven as invisible as on the fourth day, when they were created above the horizon with the sun, or there was not an eye to behold them. The greatest mystery of religion is expressed by adumbration, and in the noblest part of Jewish types, we find the cherubims shadowing the mercy-seat. Life itself is but the shadow of death, and souls departed but the shadows of the living. All things fall under this name. The sun itself is but the dark *simulachrum*, and light but the shadow of God.

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* *Lux orco, tenebræ Jovi; tenebræ orco, lux Jovi. Hippocr. de Dieta. S. Hevelii Selenographia.*

Lastly, it is no wonder that this quincuncial order was first and is still affected as grateful unto the eye. For all things are seen quincuncially; for at the eye the pyramidal rays, from the object, receive a decussation, and so strike a second base upon the *retina* or hinder coat, the proper organ of vision; wherein the pictures from objects are represented, answerable to the paper, or wall in the dark chamber; after the decussation of the rays at the hole of the horny-coat, and their refraction upon the crystalline humour, answering the *foramen* of the window, and the convex or burning-glasses, which refract the rays that enter it. And if ancient anatomy would hold, a like disposure there was of the optick or visual nerves in the brain, wherein antiquity conceived a concurrence by decussation. And this not only observable in the laws of direct vision, but in some part also verified in the reflected rays of sight. For making the angle of incidence equal to that of reflection, the visual ray returneth quincuncially, and after the form of a V; and the line of reflection being continued unto the place of vision, there ariseth a semi-decussation which makes the object seen in a perpendicular unto itself, and as far below the reflectent, as it is from it above; observable in the sun and moon beheld in water.

And this is also the law of reflection in moved bodies and sounds, which though not made by decussation, observe the rule of equality between incidence and reflection: whereby whispering places are framed by elliptical arches laid sidewise; where the voice being delivered at the focus of one extremity, observing an equality unto the angle of incidence, it will reflect unto the focus of the other end, and so escape the ears of the standers in the middle.

A like rule is observed in the reflection of the vocal and sonorous line in echoes, which cannot therefore be heard in all stations. But happening in woody plantations, by waters, and able to return some words, if reached by a pleasant and well-dividing voice, there may be heard the softest notes in nature.

And this not only verified in the way of sense, but in animal and intellectual receptions: things entering upon the intellect by a pyramid from without, and thence into the memory by another from within, the common decussation being in the understanding as is delivered by Bovillus.* Whether the intellectual and phantastical lines be not thus rightly disposed, but magnified, diminished, distorted, and ill placed, in the mathematicks of some brains, whereby they have irregular apprehensions of things, perverted notions, conceptions, and incurable hallucinations, were no unpleasant speculation.

And if Egyptian philosophy may obtain, the scale of influences was thus disposed, and the genial spirits of both worlds do trace their way in ascending and descending pyramids, mystically apprehended in the letter X, and the open bill and stradling legs of a stork, which was imitated by that character.

Of this figure Plato made choice to illustrate the motion of the soul, both of the world and man: while he delivereth that God divided the whole conjunction length-wise, according to the figure of a greek X, and then turning it about reflected it into a circle; by the circle implying the uniform motion of the first orb, and by the right lines, the planetical and various motions within it. And this also with application unto the soul of man, which hath a double aspect, one right whereby it beholdeth the body, and objects without;—another circular and reciprocal, whereby it beholdeth itself. The circle declaring the motion of the indivisible soul, simple, according to the divinity of its nature, and returning into itself; the right lines respecting the motion pertaining unto sense, and vegetation; and the central decussation, the wondrous connection of the several faculties conjointly in one substance. And so conjoined the unity and duality of the soul, and made out the three substances so much considered by him; that is, the indivisible or divine, the divisible or corporeal, and that third, which was the *systasis* or harmony of those two, in the mystical decussation.

And if that were clearly made out which Justin Martyr took for granted, this figure hath had the honour to characterize and notify our blessed Saviour, as he delivereth in that borrowed expression from Plato;—"*decussavit eum in universo,*" the hint whereof he would have Plato derive from the figure of the brazen serpent, and to have mistaken the letter X for T. Whereas it is not improbable, he learned these and other mystical expressions in his learned observations of Egypt, where he might obviously behold the mercurial characters, the handed crosses, and other mysteries not thoroughly understood in the sacred letter X; which being derivative from the stork, one of the ten sacred animals, might be originally Egyptian, and brought into Greece by Cadmus of that country.

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* *Car. Bovillus de Intellectu.*

CHAPTER V.

To enlarge this contemplation unto all the mysteries and secrets accommodable unto this number, were inexcusable Pythagorism, yet cannot omit the ancient conceit of five surnamed the number of justice;* as justly dividing between the digits, and hanging in the centre of nine, described by square numeration, which angularly divided will make the decussated number; and so agreeable unto the quincuncial ordination, and rows divided by equality, and just decorum, in the whole com-plantation; and might be the original of that common game among us, wherein the fifth place is sovereign, and carrieth the chief intention;—the ancients wisely instructing youth, even in their recreations unto virtue, that is, early to drive at the middle point and central seat of justice.

Nor can we omit how agreeable unto this number an handsome divison is made in trees and plants, since Plutarch, and the ancients have named it the divisive number; justly dividing the entities of the world,[1] many remarkable things in it,

* δίκη.

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[1] *Divisive number, justly dividing the entities of the world.*] The number five has acquired considerable importance in natural history within these few years past, in consequence of the discoveries in the natural arrangement of animals which have been effected by Mr. William Sharpe Macleay, an eminent entomologist, son of

and also comprehending the general division of vegetables.* And he that considers how most blossoms of trees, and greatest number of flowers, consist of five leaves, and therein doth rest the settled rule of nature;—so that in those which exceed, there is often found, or easily made, a variety;—may

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* Δένδρον, Θάμνος, Φρύγανον, Πόα, *Arbor, frutex, suffrutex, herba*, and that fifth which comprehendeth the *fungi* and *tubera*, whether to be named Ἄσχιον or γύμνον, comprehending also *conferva marina salsa*, and Sea-cords, of so many yards length.

Mr. Alexander Macleay, who was for many years secretary to the Linnæan society, and possesses one of the most splendid collections of insects ever yet formed. The most important of the principles announced by Mr. W. S. Macleay, as they are stated by the Rev. L. Jenyns, (in his "Report on the recent progress and present state of zoology," just published in the "Report of the fourth meeting of the British association for the advancement of science," p. 152-153,) are as follows:—"1st, *that all natural groups of animals, of whatever denomination, return into themselves, forming circles;* 2ndly, *that each of these circular groups is resolvable into exactly* five *others;* 3dly, *that these* five *groups always admit of a* binary *arrangement*, two *of them being what he calls* typical, the *other* three aberrant; 4thly, *that while proximate groups in any circle are connected by relations of* affinity, *corresponding groups in two contiguous circles are connected by relations of* analogy. Mr. Macleay has also observed, *that, in almost every group one of the* five *minor groups, into which it is resolvable, bears a resemblance to all the rest; or, more strictly speaking, consists of types which represent those of each of the* four *other groups, together with a type peculiar to itself.*"

Before proceeding to notice more particularly the numerical part of the Macleayan system, it will be expedient to cite the observation made by its author on the speculations of Browne on the number five, as given in this work. In a paper published in the Transactions of the Linnæan society, vol. xiv, part 1, Mr. Macleay remarks, after discussing certain points of his system, "it were tedious to proceed much further on this subject; and therefore, without entering into the speculations, often unintelligible and always vague, of Plutarch, Sir Thomas Browne, Drebel, Linnæus and others, as to the doctrine of *quintessence* generally, we may at once set forth the last argument which shall now be produced for the existence of a quinary distribution in organized nature. It may be stated thus: in the year 1817 I detected a quinary arrangement (published in 1819) in considering a small portion of coleopterous insects; and in the year 1821" (in the second part of Mr. Macleay's work entitled *Horæ Entomologicæ*) "I attempted to show that it prevailed generally throughout nature. In the same year (1821,) and apparently without any view beyond the particular case then before him, M. Decandolle stated the natural distribution of cruciferous plants to be quinary. And again, in the same year, a third naturalist, (M. Fries) without the knowledge of either Decandolle's *Memoire* or the *Horæ Entomologicæ*, and in a different part of Europe, publishes what he considers to be the natural arrangement of *Fungi*. Arguing *à priori*, this third naturalist fancies that the determinate number into which these acotyledonous plants are distributed ought to be four; but finds it necessary, in order that it may coincide with observed facts, to make it virtually five. Nay, at last, in spite of the prejudice of theory, he is unable to withstand the force of truth, throws himself into the arms of nature, and declares that where he actually finds his natural group complete in all its parts, there the determinate number is *five*."

With respect to the philosophy of the numerical part of the Macleayan system, we cannot do better than quote the observations on the subject, which have been made by the Rev. W. Kirby, in the celebrated *Introduction to Entomology* of which he is one of the authors. Mr. K. remarks, in the fourth volume of that work, letter xlvii,—

"There are *five* numbers and their multiples which seem more particularly readily discover how nature rests in this number, which is indeed the first rest and pause of numeration in the fingers, the natural organs thereof. Nor in the division of the feet of perfect animals doth nature exceed this account. And even in the joints of feet, which in birds are most multiplied, surpasseth not this number; so progressionally making them out in many,[*] that from five in the fore-claw she descendeth unto two in the hindmost; and so in four feet makes up the number of joints, in the five fingers or toes of man.

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[*] As herons, bitterns, and longclawed fowls.

to prevail in nature: namely, *two*, *three*, *four*, *five*, and *seven*. But though these numbers are *prevalent*, no one of them can be deemed universal.......

"But that which appears to prevail most widely in nature is what may be called the *quaterno-quinary;* according to which, groups consist of four minor ones; one of which is excessively capacious in comparison of the other 3, and is always divisible into two; which gives *five* of the same degree, but of which, two have a greater affinity to each other than they have to the other three. Mr. W. S. Macleay, in the progress of his enquiries to ascertain the station of *Scarabæus sacer*, discovered that the *thalerophagous* and *saprophagous Petalocerous* beetles resolved themselves each into a circle containing 5 such groups. And having got this principle, and finding that this number and its multiples prevailed much in nature, he next applied to the animal kingdom in general: and from the result of this investigation, it appeared to him that it was nearly if not altogether, universal. Nearly at the same time a discovery almost parallel was made and recorded by 3 eminent botanists, M. M. Decandolle, Agardh, and Fries, with regard to some groups of the vegetable kingdom; and more recently Mr. Vigors has discovered the same quinary arrangement in various groups of birds. This is a most remarkable coincidence, and proves that the distribution of objects into fives is very general in nature. I should observe, however, that according to Mr. Macleay's system, as stated in his *Horæ Entomologicæ*, if the osculant or transition groups are included, the total number is seven:—these are groups small in number both of genera and species, that intervene between and connect the larger ones. Each of these osculant groups may be regarded as divided into *two* parts, the one belonging to the *upper* circle and the other to the *lower;* so that each circle or larger group is resolvable into five *interior* and two *exterior* ones, thus making up the number *seven*. Though Mr. Macleay regards this quinary arrangement of natural objects as very general, it does not appear that he looks upon it as absolutely universal,—since he states organized matter to begin in a dichotomy: and he does not resolve its ultimate groups into five species; nor am I certain that he regards the penultimate groups as invariably consisting of five ultimate ones. In *Copris* McL. I seem in my own cabinet to possess ten or twelve distinct types; and in *Phanæus*, the fifth type, which Mr. Macleay regards as containing insects resembling all the other types, appears to me rather divided into *two;* one formed by *P. carnifex Vindex, igneus*, &c., and the other by *P. spendidulus, floriger, Kirbii*, &c. ...... With regard to all numerical systems we may observe, that since variation is certainly one of the most universal laws of nature, we may conclude that different numbers prevail in different departments, and that all the numbers above stated as prevalent are often resolvable or reduceable into each other. So that where physiologists appear to differ, or think they differ, they frequently really agree."

Professor Lindley, in his *Nixus Plantarum*, published in 1834, which contains his latest and most matured views on the natural system of the vegetable world, has also stated that the most natural groups of plants, of all classes, are *quinary*.—*Br.*

Not to omit the quintuple section of a cone,[*] of handsome practice in ornamental garden-plots, and in some way discoverable in so many works of nature, in the leaves, fruits, and seeds of vegetables, and scales of some fishes; so much considerable in glasses, and the optick doctrine; wherein the learned may consider the crystalline humour of the eye in the cuttle-fish and loligo.

He that forgets not how antiquity named this the conjugal or wedding number, and made it the emblem of the most remarkable conjunction, will conceive it duly appliable unto this handsome economy, and vegetable combination; and may hence apprehend the allegorical sense of that obscure expression of Hesiod,[†] and afford no improbable reason why Plato admitted his nuptial guests by fives, in the kindred of the married couple.[‡]

And though a sharper mystery might be implied in the number of the five wise and foolish virgins, which were to meet the bridegroom, yet was the same agreeable unto the conjugal number, which ancient numerists made out by two and three, the first parity and imparity, the active and passive digits, the material and formal principles in generative societies. And not discordant even from the customs of the Romans, who admitted but five torches in their nuptial solemnities.[§] Whether there were any mystery or not, implied, the most generative animals were created on this day, and had accordingly the largest benediction. And under a quintuple consideration, wanton antiquity considered the circumstances of generation, while by this number of five they naturally divided the nectar of the fifth planet.[||]

The same number in the Hebrew mysteries and cabalistical accounts was the character of generation,[¶] declared by the letter E, the fifth in their alphabet, according to that cabalistical dogma; if Abram had not had this letter added unto his name, he had remained fruitless, and without the power of generation: not only because hereby the number of his name attained two hundred forty eight, the number of the affirmative precepts, but because, as in created natures there is a male and female, so in divine and intelligent productions, the mother of life and fountain of souls in cabalistical technology is called *Binah*, whose seal and character was E. So that being sterile before, he received the power of generation from that measure and mansion in the archetype; and was made conformable unto Binah. And upon such involved considerations, the ten of Sarai was exchanged into five.[*] If any shall look upon this as a stable number, and fitly appropriable unto trees, as bodies of rest and station, he hath herein a great foundation in nature, who observing much variety in legs and motive organs of animals, as two, four, six, eight, twelve, fourteen, and more, hath passed over five and ten, and assigned them unto none, or very few, as the *Phalangium monstrosum Brasilianum, (Clusii et Jac. de Laet. Cur. Poster. Americæ Descript.)* if perfectly described.[2] And for the stability of this number, he shall not want the sphericity of its nature,[3] which multiplied in itself, will return into its own denomination, and bring up the rear of the account. Which is also one of the numbers that makes up the mystical name of God, which consisting of letters denoting all the spherical numbers, ten, five, and six, emphatically sets forth the notion of Trismegistus, and that intelligible sphere, which is the nature of God.

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[*] *Elleipsis, parabola, hyperbole, circulus, triangulum.*

[†] *πέμπτας, id est, nuptias multas. Rhodig.*

[‡] *Plato de Leg.* 6.

[§] *Plutarch. Problem. Rom.* i.

[||] . . . . *oscula quæ Venus*
Quinta parte sui nectaris imbuit.—Hor. lib. i, od. 13.

[¶] *Archang. Dog. Cabal.*

Many expressions by this number occur in Holy Scripture, perhaps unjustly laden with mystical expositions, and little concerning our order. That the Israelites were forbidden to eat the fruit of their new planted trees, before the fifth year, was very agreeable unto the natural rules of husbandry; fruits being unwholesome and lash,[4] before the fourth or fifth

[*] *Jod* into *He*.

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[2] *the Phalangium, &c.*] The reference here given seems to relate to two works—*Clusii Curæ Posteriores*, 4to. *Antv.* 1611, and *De Laet. Americæ Descriptio.* To the latter I have not been able to refer. The former exhibits, at page 88, a rude figure of *Phalangium Americanum* with its eight feet, and two *Palpi* which our author has mistaken for feet,—it is probably a *mygale*,—perhaps *avicularia*.

[3] *he shall not want the sphericity of its nature,*] See note at p. 413, note 9.

[4] *lash*] soft and watery, but without flavour. *Forby's Vocabulary of East Anglia.*

year. In the second day or feminine part of five, there was added no approbation. For in the third or masculine day, the same is twice repeated; and a double benediction inclosed both creations, whereof the one, in some part, was but an accomplishment of the other. That the trespasser[*] was to pay a fifth part above the head or principal, makes no secret in this number, and implied no more than one part above the principal; which being considered in four parts, the additional forfeit must bear the name of a fifth. The five golden mice had plainly their determination from the number of the princes. That five should put to flight an hundred might have nothing mystically implied; considering a rank of soldiers could scarce consist of a lesser number. Saint Paul had rather speak five words in a known, than ten thousand in an unknown tongue: that is, as little as could well be spoken; a simple proposition consisting of three words, and a complexed one not ordinarily short of five.

More considerables there are in this mystical account, which we must not insist on. And therefore, why the radical letters in the pentateuch should equal the number of the soldiery of the tribes; Why our Saviour in the wilderness fed five thousand persons with five barley loaves; and again, but four thousand with no less than seven of wheat? Why Joseph designed five changes of raiment unto Benjamin; and David took just five pebbles [†] out of the brook against the Pagan champion;—we leave it unto arithmetical divinity, and theological explanation.

Yet if any delight in new problems, or think it worth the enquiry, whether the critical physician hath rightly hit the nominal notation of *quinque?* Why the ancients mixed five or three, but not four parts of water unto their wine; and Hippocrates observed a fifth proportion in the mixture of water with milk, as in dysenteries and bloody fluxes? Under what abstruse foundation astrologers do figure the good or bad fate from our children, in good fortune;[‡] or the fifth house of their celestial schemes? Whether the Egyptians described a star by a figure of five points, with reference unto the five capital aspects,[*] whereby they transmit their influences, or abstruser considerations? Why the cabalistical doctors, who conceive the whole sephiroth, or divine emanations to have guided the ten-stringed harp of David, whereby he pacified the evil spirit of Saul, in strict numeration do begin with the *perihypate meson*, or *ff fa ut*, and so place the *tiphereth* answering *c fol fa ut*, upon the fifth string? or whether this number be oftener applied unto bad things and ends, than good in Holy Scripture, and why? he may meet with abstrusities of no ready resolution.

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[*] Lev. vi.

[†] τέσσαρα ἓνκε four and one, or five. *Scalig.*

[‡] Ἀγαθὴ τυχὴ *bona fortuna*, the name of the fifth house.

If any shall question the rationality of that magick, in the cure of the blind man by Serapis, commanded to place five fingers on his altar, and then his hand on his eyes? Why, since the whole comedy is primarily and naturally comprised in four parts,[†] and antiquity permitted not so many persons to speak in one scene, yet would not comprehend the same in more or less than five acts? Why amongst sea-stars nature chiefly delighteth in five points? And since there are found some of no fewer than twelve, and some of seven, and nine, there are few or none discovered of six or eight?[5] If any shall enquire why the flowers of rue properly consist of four leaves, the first and third flower have five? Why, since many flowers have one leaf or none,[‡] as Scaliger will have it, divers three, and the greatest number consist of five divided from their bottoms, there are yet so few of two? or why nature generally beginning or setting out with two opposite leaves at the root, doth so seldom conclude with that order and number at the flower? He shall not pass his hours in vulgar speculations.

If any shall further query why magnetical philosophy excludeth decussations, and needles transversely placed do

[*] Conjunct, opposite, sextile, trigonal, tetragonal.

[†] Πρότασις, ἐπίτασις, κατάστασις, καταστροφή.

[‡] *unifolium nullifolium.*

[5] *Why amongst sea-stars, &c.*] The far greater number of this group of *Radiata* is pentagonal—or five-rayed. But there occur in many species individuals which vary from the rule. In the British Museum there are specimens of—*Ophiura elegans*, and *Asterias reticulata* with but four rays; of some unnamed species with 4, 5, 6, and 7; of *A. variolata* with 4, 5, 6, 7, and 8 rays; of *A. endica* with 8 and 9; and *A. papposa* with from 12 to 15 rays.

naturally distract their verticities? Why geomancers do imitate the quintuple figure, in their mother characters of acquisition and amission, &c. somewhat answering the figures in the lady or speckled beetle? With what equity chiromantical conjecturers decry these decussations in the lines and mounts of the hand? What that decussated figure intendeth in the medal of Alexander the Great? Why the goddesses sit commonly cross-legged in ancient draughts, since Juno is described in the same as a veneficial posture to hinder the birth of Hercules? If any shall doubt why at the amphidromical feasts, on the fifth day after the child was born, presents were sent from friends, of polypuses, and cuttle-fishes? Why five must be only left in that symbolical mutiny among the men of Cadmus? Why Proteus in Homer, the symbol of the first matter, before he settled himself in the midst of his sea-monsters, doth place them out by fives? Why the fifth year's ox was acceptable sacrifice unto Jupiter? Or why the noble Antoninus in some sense doth call the soul itself a rhombus? He shall not fall on trite or trivial disquisitions. And these we invent and propose unto acuter enquirers, nauseating crambe verities and questions over-queried. Flat and flexible truths are beat out by every hammer; but Vulcan and his whole forge sweat to work out Achilles his armour. A large field is yet left unto sharper discerners to enlarge upon this order, to search out the *quaternios* and figured draughts of this nature, and (moderating the study of names, and mere nomenclature of plants,) to erect generalities, disclose unobserved proprieties, not only in the vegetable shop, but the whole volume of nature; affording delightful truths, confirmable by sense and ocular observation, which seems to me the surest path to trace the labyrinth of truth.[6] For though discursive enquiry and rational conjecture may leave handsome gashes and flesh-wounds; yet without conjunction of this, expect no mortal or dispatching blows unto error.

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[6] *and (moderating the study of names, and mere nomenclature of plants,) to erect generalities, &c.*] In these observations the importance and necessity of endeavouring to approximate to the true natural system of plants, is very curiously and sagaciously anticipated by our author.—*Br.*

But the quincunx* of heaven runs low, and 'tis time to close the five ports of knowledge. We are unwilling to spin out our awaking thoughts into the phantasms of sleep, which often continueth precogitations; making cables of cobwebs, and wildernesses of handsome groves. Beside Hippocrates† hath spoke so little, and the oneirocritical‡ masters have left such frigid interpretations from plants, that there is little encouragement to dream of paradise itself. Nor will the sweetest delight of gardens afford much comfort in sleep; wherein the dulness of that sense shakes hands with delectable odours; and though in the bed of Cleopatra,§ can hardly with any delight raise up the ghost of a rose.

Night, which Pagan theology could make the daughter of Chaos, affords no advantage to the description of order: although no lower than that mass can we derive its genealogy. All things began in order, so shall they end, and so shall they begin again; according to the ordainer of order and mystical mathematicks of the city of heaven.

Though Somnus in Homer be sent to rouse up Agamemnon, I find no such effects in these drowsy approaches of sleep. To keep our eyes open longer, were but to act our Antipodes.[7] The huntsmen are up in America, and they are already past their first sleep in Persia. But who can be drowsy at that hour which freed us from everlasting sleep? or have slumbering thoughts at that time, when sleep itself must end, and as some conjecture all shall awake again.

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* *Hyades*, near the horizon about midnight, at that time.

† *De Insomniis.*

‡ *Artemidorus et Apomazar.*

§ Strewed with roses.

[7] *To keep our eyes open longer, &c.*] "Think you that there ever was such a reason given before for going to bed at midnight; to wit, that if we did not, we should be *acting* the part of our antipodes!" And then,—"THE HUNTSMEN ARE UP IN AMERICA,"—what life, what fancy! Does the whimsical knight give us, thus, the *essence* of gunpowder tea, and call it an *opiate?*"—*Coleridge's MS. notes on the margin of a copy of Browne's Works.*

*** It escaped me to notice in the first chapter of this "Discourse," that there is a curious article on gardens, in *D'Israeli's Curiosities of Literature*, vol. iv, p. 233;—in the *Archæologia*, vol. vii, a paper by the Hon. Daines Barrington, on the progress of gardening;—in the 2nd number of the *Journal of the Geographical Society*, an interesting account of the floating gardens of Cashmere.

END OF THE GARDEN OF CYRUS.

THE STATIONER TO THE READER.

I cannot omit to advertise, that a book was published not long since, entitled, *Nature's Cabinet Unlocked*,*[1] bearing the name of this author. If any man have been benefited thereby, this author is not so ambitious as to challenge the honour thereof, as having no hand in that work. To distinguish of true and spurious pieces was the original criticism; and some were so handsomely counterfeited, that the entitled authors needed not to disclaim them. But since it is so, that either he must write himself, or others will write for him, I know no better prevention than to act his own part with less intermission of his pen.

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* See *Blackwood's Edinburgh Magazine*, vol. vi, 198.

[1] *a book, &c.*] Which Anthony a Wood thus introduceth to the notice of his readers:—"The reader may be pleased now to know that there hath been published under Dr. Thomas Browne's name a book bearing this title:—

"*Nature's Cabinet Unlocked, wherein is discovered the natural Causes of Metals, Stones, Pretious Earths, &c.*, printed 1657, in tw. A dull worthless thing, stole for the most part * out of the *Physics* of Magirus by a very ignorant person, a plagiary so ignorant and unskilful in his Rider, that not distinguishing between *Lævis* and *Levis* in the said Magirus, hath told us of the liver, that one part of it is *gibbous* and the other *light*: and yet he had the confidence to call this scribble *Nature's Cabinet, &c.* an arrogant and fanciful title, of which our author's (Browne) true humility would no more have suffered him to have been the father, than his great learning could have permitted him to have been the author of the said book. For it is † certain that as he was a philosopher very inward with nature, so was he one that never boasted his acquaintance with her."

* Mr. Crossley informs me it is entirely so.

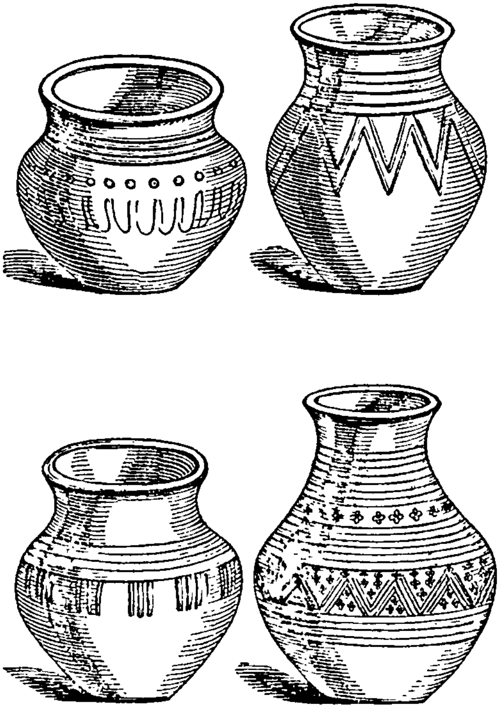
† See a discourse by way of introduction to *Baconiana; or certain genuine Remains of Franc. Visc. S. Albans*, Lond. 1679, 8vo, p. 76, 77. Written by Tho. Tenison, D. D.

Hydriotaphia.

URN BURIAL;
OR, A DISCOURSE OF THE SEPULCHRAL URNS LATELY FOUND IN NORFOLK.

EIGHTH EDITION.

ORIGINALLY PUBLISHED IN
1658.



En sum quod digitis quinque levatur onus.—PROPERT.

THE EPISTLE DEDICATORY.

TO MY WORTHY AND HONOURED FRIEND,

THOMAS LE GROS, OF CROSTWICK, ESQUIRE.[1]

When the funeral pyre was out, and the last valediction over, men took a lasting adieu of their interred friends, little expecting the curiosity of future ages should comment upon their ashes; and, having no old experience of the duration of their relicks, held no opinion of such after-considerations.

But who knows the fate of his bones, or how often he is to be buried? Who hath the oracle of his ashes, or whither they are to be scattered? The relicks of many lie like the ruins of Pompey's,* in all parts of the earth; and when they arrive at your hands these may seem to have wandered far, who, in a direct and meridian travel,† have but few miles of known earth between yourself and the pole.

That the bones of Theseus should be seen again in Athens ‡ was not beyond conjecture and hopeful expectation; but that these should arise so opportunely to serve yourself was an hit of fate, and honour beyond prediction.

* *Pompeios juvenes Asia atque Europa, sed ipsum terrâ tegit Libyos.*

† Little directly but sea, between your house and Greenland.[2]

‡ Brought back by Cimon Plutarch.

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[1] *Le Gros, &c.*] Descended from an ancient family of the name (Le Gross, or Groos,) settled at Sloly, near Crostwick, so early as the reign of Stephen, and who became possessed of the manor and hall of Crostwick in the 38th of Henry VIII. His grandfather, Sir Thomas, was knighted by James I. at the Charter-house, in 1603. The property descended to his nephew, Charles Harman, who took the name of Le Gros, but sold the estate to the Walpole family in 1720. See a brief notice of him, vol. i, p. 49.

[2] *Little directly, &c.*] Crostwick hall is not twenty miles distant from the north coast of Norfolk.

We cannot but wish these urns might have the effect of theatrical vessels and great Hippodrome urns* in Rome, to resound the acclamations and honour due unto you. But these are sad and sepulchral pitchers, which have no joyful voices; silently expressing old mortality, the ruins of forgotten times, and can only speak with life, how long in this corruptible frame some parts may be uncorrupted; yet able to outlast bones long unborn, and noblest pile among us.†

We present not these as any strange sight or spectacle unknown to your eyes, who have beheld the best of urns and noblest variety of ashes; who are yourself no slender master of antiquities, and can daily command the view of so many imperial faces; which raiseth your thoughts unto old things and consideration of times before you, when even living men were antiquities; when the living might exceed the dead, and to depart this world could not be properly said to go unto the greater number.‡ And so run up your thoughts upon the ancient of days, the antiquary's truest object, unto whom the eldest parcels are young, and earth itself an infant, and without Egyptian § account makes but small noise in thousands.

We were hinted by the occasion, not catched the opportunity to write of old things, or intrude upon the antiquary. We are coldly drawn unto discourses of antiquities, who have scarce time before us to comprehend new things, or make out learned novelties. But seeing they arose, as they lay almost in silence among us, at least in short account suddenly passed over, we were very unwilling they should die again, and be buried twice among us.

Beside, to preserve the living, and make the dead to live, to keep men out of their urns, and discourse of human fragments in them, is not impertinent unto our profession; whose study is life and death, who daily behold examples of mortality, and of all men least need artificial *mementos*, or coffins by our bedside, to mind us of our graves.

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* The great urns in the Hippodrome at Rome, conceived to resound the voices of people at their shows.

† Worthily possessed by that true gentleman, Sir Horatio Townshend, my honoured friend.

‡ *Abiit ad plures.*

§ Which makes the world so many years old.

'T is time to observe occurrences, and let nothing remarkable escape us; the supinity of elder days hath left so much in silence, or time hath so martyred the records, that the most industrious heads* do find no easy work to erect a new Britannia.

'T is opportune to look back upon old times, and contemplate our forefathers. Great examples grow thin, and to be fetched from the passed world. Simplicity flies away, and iniquity comes at long strides upon us. We have enough to do to make up ourselves from present and passed times, and the whole stage of things scarce serveth for our instruction. A complete piece of virtue must be made from the Centos of all ages, as all the beauties of Greece could make but one handsome Venus.

When the bones of King Arthur were digged up,† the old race might think they beheld therein some originals of themselves; unto these of our urns none here can pretend relation, and can only behold the relicks of those persons who, in their life giving the laws unto their predecessors, after long obscurity, now lie at their mercies. But, remembering the early civility they brought upon these countries, and forgetting long-passed mischiefs, we mercifully preserve their bones, and piss not upon their ashes.

In the offer of these antiquities we drive not at ancient families, so long outlasted by them. We are far from erecting your worth upon the pillars of your forefathers, whose merits you illustrate. We honour your old virtues, conformable unto times before you, which are the noblest armoury. And, having long experience of your friendly conversation, void of empty formality, full of freedom, constant and generous honesty, I look upon you as a gem of the old rock,‡ and must profess myself even to urn and ashes,

Your ever faithful friend and servant,

THOMAS BROWNE.

Norwich, May 1*st.*

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* Wherein Mr. Dugdale hath excellently well endeavoured, and worthy to be countenanced by ingenuous and noble persons.

† In the time of Henry the second.—*Camden.*

‡ *Adamas de rupe veteri præstantissimus.*

Hydriotaphia.

CHAPTER I.

In the deep discovery of the subterranean world, a shallow part would satisfy some enquirers; who, if two or three yards were open about the surface, would not care to rake the bowels of Potosi,* and regions towards the centre. Nature hath furnished one part of the earth, and man another. The treasures of time lie high, in urns, coins, and monuments, scarce below the roots of some vegetables. Time hath endless rarities, and shows of all varieties; which reveals old things in heaven, makes new discoveries in earth, and even earth itself a discovery. That great antiquity America lay buried for thousands of years, and a large part of the earth is still in the urn unto us.

Though if Adam were made out of an extract of the earth, all parts might challenge a restitution, yet few have returned their bones far lower than they might receive them; not affecting the graves of giants, under hilly and heavy coverings, but content with less than their own depth, have wished their bones might lie soft, and the earth be light upon them. Even such as hope to rise again, would not be content with central interment, or so desperately to place their relicks as to lie beyond discovery; and in no way to be seen again; which happy contrivance hath made communication with our forefathers, and left unto our view some parts, which they never beheld themselves.

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* The rich mountain of Peru.

Though earth hath engrossed the name, yet water hath proved the smartest grave; which in forty days swallowed almost mankind, and the living creation; fishes not wholly escaping, except the salt ocean were handsomely contempered by a mixture of the fresh element.

Many have taken voluminous pains to determine the state of the soul upon disunion; but men have been most phantastical in the singular contrivances of their corporal dissolution: whilst the soberest nations have rested in two ways, of simple inhumation and burning.

That carnal interment or burying was of the elder date, the old examples of Abraham and the patriarchs are sufficient to illustrate; and were without competition, if it could be made out, that Adam was buried near Damascus, or Mount Calvary, according to some tradition. God himself, that buried but one, was pleased to make choice of this way, collectible from Scripture expression, and the hot contest between Satan and the archangel, about discovering the body of Moses. But the practice of burning was also of great antiquity, and of no slender extent. For (not to derive the same from Hercules) noble descriptions there are hereof in the Grecian funerals of Homer, in the formal obsequies of Patroclus, and Achilles; and somewhat elder in the Theban war, and solemn combustion of Meneceus, and Archemorus, contemporary unto Jair the eighth judge of Israel. Confirmable also among the Trojans, from the funeral pyre of Hector, burnt before the gates of Troy: and the burning of Penthesilea the Amazonian queen:* and long continuance of that practice, in the inward countries of Asia; while as low as the reign of Julian, we find that the king of Chionia† burnt the body of his son, and interred the ashes in a silver urn.

The same practice extended also far west;‡ and, besides Herulians, Getes, and Thracians, was in use with most of the

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* *Q. Calaber.* lib. i.

† Gumbrates King of *Chionia*, a country near *Persia.*—*Ammianus Marcellinus.*

‡ *Arnold. Montan. not. in Cæs. Commentar. L. Gyraldus. Kirkmannus.*

Celtæ, Sarmatians, Germans, Gauls, Danes, Swedes, Norwegians; not to omit some use thereof among Carthaginians and Americans. Of greater antiquity among the Romans than most opinion, or Pliny seems to allow: for (beside the old table laws of burning or burying within the city,* of making the funeral fire with planed wood, or quenching the fire with wine,) Manlius the consul burnt the body of his son: Numa, by special clause of his will, was not burnt but buried; and Remus was solemnly burned, according to the description of Ovid.†

Cornelius Sylla was not the first whose body was burned in Rome, but the first of the Cornelian family; which, being indifferently, not frequently used before; from that time spread, and became the prevalent practice. Not totally pursued in the highest run of cremation; for when even crows were funerally burnt, Poppæa the wife of Nero found a peculiar grave interment. Now as all customs were founded upon some bottom of reason, so there wanted not grounds for this; according to several apprehensions of the most rational dissolution. Some being of the opinion of Thales, that water was the original of all things, thought it most equal[1] to submit unto the principle of putrefaction, and conclude in a moist relentment.[2] Others conceived it most natural to end in fire, as due unto the master principle in the composition, according to the doctrine of Heraclitus; and therefore heaped up large piles, more actively to waft them toward that element, whereby they also declined a visible degeneration into worms, and left a lasting parcel of their composition.

Some apprehended a purifying virtue in fire, refining the grosser commixture, and firing out the æthereal particles so deeply immersed in it. And such as by tradition or rational conjecture held any hint of the final pyre of all things; or that this element at last must be too hard for all the rest; might conceive most naturally of the fiery dissolution. Others pretending no natural grounds, politickly declined the malice of enemies upon their buried bodies. Which consideration led Sylla unto this practice; who having thus served the body of Marius, could not but fear a retaliation upon his own; entertained after in the civil wars, and revengeful contentions of Rome.

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* 12 *Tabul.* part i, *de jure sacro. Hominem mortuum in urbe ne sepelito, neve urito*, tom. 2. *Rogum asciâ ne polito*, tom. 4. *Item Vigeneri Annotat. in Livium, et Alex. cum Tiraquello. Roscinus cum Dempstero.*

† *Ultimo prolata subdita flamma rogo. De Fast.* lib. 4, *cum Car. Neapol. Anaptyxi.*

[1] *most equal.*] Most equitable. [2] *relentment.*] Dissolution: not in Johnson.

But as many nations embraced, and many left it indifferent, so others too much affected, or strictly declined this practice. The Indian Brachmans seemed too great friends unto fire, who burnt themselves alive, and thought it the noblest way to end their days in fire; according to the expression of the Indian, burning himself at Athens,* in his last words upon the pyre unto the amazed spectators, thus I make myself immortal.

But the Chaldeans the great idolaters of fire, abhorred the burning of their carcasses, as a pollution of that deity. The Persian magi declined it upon the like scruple, and being only solicitous about their bones, exposed their flesh to the prey of birds and dogs. And the Persees now in India, which expose their bodies unto vultures, and endure not so much as *feretra* or biers of wood, the proper fuel of fire, are led on with such niceties. But whether the ancient Germans, who burned their dead, held any such fear to pollute their deity of Herthus, or the earth, we have no authentic conjecture.

The Egyptians were afraid of fire, not as a deity, but a devouring element, mercilessly consuming their bodies, and leaving too little of them; and therefore by precious embalments, depositure in dry earths, or handsome inclosure in glasses, contrived the notablest ways of integral conservation. And from such Egyptian scruples, imbibed by Pythagoras, it may be conjectured that Numa and the Pythagorical sect first waved the fiery solution.

The Scythians, who swore by wind and sword, that is, by life and death, were so far from burning their bodies, that they declined all interment, and made their graves in the air:

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* And therefore the inscription of his tomb was made accordingly. *Nic. Damasc.*

and the Ichthyophagi, or fish-eating nations about Egypt, affected the sea for their grave; thereby declining visible corruption, and restoring the debt of their bodies. Whereas the old heroes, in Homer, dreaded nothing more than water or drowning; probably upon the old opinion of the fiery substance of the soul, only extinguishable by that element; and therefore the poet emphatically implieth the total destruction in this kind of death, which happened to Ajax Oileus.*

The old Balearians† had a peculiar mode, for they used great urns and much wood, but no fire in their burials, while they bruised the flesh and bones of the dead, crowded them into urns, and laid heaps of wood upon them. And the Chinese‡ without cremation or urnal interment of their bodies, make use of trees and much burning, while they plant a pine-tree by their grave, and burn great numbers of printed draughts of slaves and horses over it, civilly content with their companies *in effigy*, which barbarous nations exact unto reality.

Christians abhorred this way of obsequies, and though they sticked not to give their bodies to be burnt in their lives, detested that mode after death; affecting rather a depositure than absumption, and properly submitting unto the sentence of God, to return not unto ashes but unto dust again, conformable unto the practice of the patriarchs, the interment of our Saviour, of Peter, Paul, and the ancient martyrs. And so far at last declining promiscuous interment with Pagans, that some have suffered ecclesiastical censures,§ for making no scruple thereof.

The Musselman believers will never admit this fiery resolution. For they hold a present trial from their black and white angels in the grave; which they must have made so hollow, that they may rise upon their knees.

The Jewish nation, though they entertained the old way of inhumation, yet sometimes admitted this practice. For the men of Jabesh burnt the body of Saul; and by no prohibited practice, to avoid contagion or pollution, in time of pestilence, burnt the bodies of their friends.* And when they burnt not their dead bodies, yet sometimes used great burnings near and about them, deducible from the expressions concerning Jehoram, Zedechias, and the sumptuous pyre of Asa. And were so little averse from Pagan burning, that the Jews lamenting the death of Cæsar their friend, and revenger on Pompey, frequented the place where his body was burnt for many nights together.† And as they raised noble monuments and mausoleums for their own nation,‡ so they were not scrupulous in erecting some for others, according to the practice of Daniel, who left that lasting sepulchral pile in Ecbatana, for the Median and Persian kings.§

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* Which *Magius* reads ἐξαπόλωλε.

† *Diodorus Siculus.*

‡ *Ramusius* in *Navigat.*

§ *Martialis* the Bishop. *Cyprian.*

But even in times of subjection and hottest use, they conformed not unto the Roman practice of burning; whereby the prophecy was secured concerning the body of Christ, that it should not see corruption, or a bone should not be broken; which we believe was also providentially prevented, from the soldier's spear and nails that passed by the little bones both in his hands and feet; not of ordinary contrivance, that it should not corrupt on the cross, according to the laws of Roman crucifixion, or an hair of his head perish, though observable in Jewish customs, to cut the hairs of malefactors.

Nor in their long cohabitation with Egyptians, crept into a custom of their exact embalming, wherein deeply slashing the muscles, and taking out the brains and entrails, they had broken the subject of so entire a resurrection, nor fully answered the types of Enoch, Elijah, or Jonah, which yet to prevent or restore, was of equal facility unto that rising power, able to break the fasciations and bands of death, to get clear out of the cerecloth, and an hundred pounds of ointment, and out of the sepulchre before the stone was rolled from it.

But though they embraced not this practice of burning, yet entertained they many ceremonies agreeable unto Greek and Roman obsequies. And he that observeth their funeral feasts, their lamentations at the grave, their music, and weeping mourners; how they closed the eyes of their friends, how they washed, anointed, and kissed the dead; may easily conclude these were not mere Pagan civilities. But whether that mournful burthen, and treble calling out after Absalom,* had any reference unto the last conclamation, and triple valediction, used by other nations, we hold but a wavering conjecture.

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* Amos vi, 10.

† *Sueton. in vita Jul. Cæs.*

‡ As that magnificent sepulchral monument erected by *Simon*, 1 Macc. xiii.

§ Κατασκεύασμα θαυμασίως πεποιημένον, whereof a Jewish Priest had always the custody, unto Josephus his days.—*Jos. Antiq.* lib. x.

Civilians make sepulture but of the law of nations, others do naturally found it and discover it also in animals. They that are so thick-skinned as still to credit the story of the Phœnix, may say something for animal burning. More serious conjectures find some examples of sepulture in elephants, cranes, the sepulchral cells of pismires, and practice of bees,—which civil society carrieth out their dead, and hath exequies, if not interments.

CHAPTER II.

The solemnities, ceremonies, rites of their cremation or interment, so solemnly delivered by authors, we shall not disparage our reader to repeat. Only the last and lasting part in their urns, collected bones and ashes, we cannot wholly omit or decline that subject, which occasion lately presented, in some discovered among us.

In a field of Old Walsingham, not many months past, were digged up between forty and fifty urns, deposited in a dry and sandy soil, not a yard deep, nor far from one another.—Not all strictly of one figure, but most answering these described: some containing two pounds of bones, distinguishable in skulls, ribs, jaws, thigh bones, and teeth, with fresh impressions of their combustion; besides the extraneous substances, like pieces of small boxes, or combs handsomely wrought, handles of small brass instruments, brasen nippers, and in one some kind of opal.†

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* 2 Sam. xviii, 33.

† In one sent me by my worthy friend, Dr. Thomas Witherly of Walsingham.

Near the same plot of ground, for about six yards compass, were digged up coals and incinerated substances, which begat conjecture that this was the *ustrina* or place of burning their bodies, or some sacrificing place unto the *manes*, which was properly below the surface of the ground, as the *æra* and altars unto the gods and heroes above it.

That these were the urns of Romans from the common custom and place where they were found, is no obscure conjecture, not far from a Roman garrison, and but five miles from Brancaster, set down by ancient record under the name of Branodunum. And where the adjoining town, containing seven parishes, in no very different sound, but Saxon termination, still retains the name of Burnham, which being an early station, it is not improbable the neighbour parts were filled with habitations, either of Romans themselves, or Britons Romanised, which observed the Roman customs.

Nor is it improbable, that the Romans early possessed this country. For though we meet not with such strict particulars of these parts before the new institution of Constantine and military charge of the count of the Saxon shore, and that about the Saxon invasions, the Dalmatian horsemen were in the garrison of Brancaster; yet in the time of Claudius, Vespasian, and Severus, we find no less than three legions dispersed through the province of Britain. And as high as the reign of Claudius a great overthrow was given unto the Iceni, by the Roman lieutenant Ostorius. Not long after, the country was so molested, that, in hope of a better state, Prasutagus bequeathed his kingdom unto Nero and his daughters; and Boadicea, his queen, fought the last decisive battle with Paulinus. After which time, and conquest of Agricola, the lieutenant of Vespasian, probable it is, they wholly possessed this country; ordering it into garrisons or habitations best suitable with their securities. And so some Roman habitations not improbable in these parts, as high as the time of Vespasian, where the Saxons after seated, in whose thin-filled maps we yet find the name of Walsingham. Now if the Iceni were but Gammadims, Anconians, or men that lived in an angle, wedge, or elbow of Britain, according to the original etymology, this country will challenge the emphatical appellation, as most properly making the elbow or *iken* of Icenia.[3]

That Britain was notably populous is undeniable, from that expression of Cæsar.[*] That the Romans themselves were early in no small numbers (seventy thousand, with their associates,) slain by Boadicea, affords a sure account. And though many Roman habitations are now unknown, yet some, by old works, rampiers, coins, and urns, do testify their possessions. Some urns have been found at Castor, some also about Southcreak, and, not many years past, no less than ten in a field at Buxton,[†] not near any recorded garrison. Nor is it strange to find Roman coins of copper and silver among us; of Vespasian, Trajan, Adrian, Commodus, Antoninus, Severus, &c.; but the greater number of Dioclesian, Constantine, Constans, Valens, with many of Victorinus Posthumius, Tetricus, and the thirty tyrants in the reign of Gallienus; and some as high as Adrianus have been found about Thetford, or Sitomagus, mentioned in the *Itinerary* of Antoninus, as the way from Venta or Castor unto London.[‡] But the most frequent discovery is made at the two Castors by Norwich and Yarmouth,[§] at Burghcastle, and Brancaster.[||]

Besides the Norman, Saxon, and Danish pieces of Cuthred, Canutus, William, Matilda,[¶] and others, some British coins of gold have been dispersedly found, and no small number of silver pieces near Norwich,* with a rude head upon the obverse, and an ill-formed horse on the reverse, with inscriptions *Ic. Duro. T.;* whether implying Iceni, Durotriges, Tascia, or Trinobantes, we leave to higher conjecture. Vulgar chronology will have Norwich Castle as old as Julius Cæsar; but his distance from these parts, and its gothick form of structure, abridgeth such antiquity. The British coins afford conjecture of early habitation in these parts, though the city of Norwich arose from the ruins of Venta; and though, perhaps, not without some habitation before, was enlarged, builded, and nominated by the Saxons. In what bulk or populosity it stood in the old East-angle monarchy tradition and history are silent. Considerable it was in the Danish eruptions, when Sueno burnt Thetford and Norwich,† and Ulfketel, the governor thereof, was able to make some resistance, and after endeavoured to burn the Danish navy.

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[*] *Hominum infinita multitudo est, creberrimaque; ædificia ferè Gallicis consimilia.—Cæs. de Bello Gal.* l. 5.

[†] In the ground of my worthy friend Robert Jegon, Esq.; wherein some things contained were preserved by the most worthy Sir William Paston, Bart.

[‡] From Castor to Thetford the Romans accounted thirty-two miles, and from thence observed not our common road to London, but passed by *Combretonium ad Ansam, Canonium, Cæsaromagus, &c.*, by Bretenham, Coggeshall, Chelmsford, Brentwood, &c.

[§] Most at Castor by Yarmouth, found in a place called East-bloudy-burgh Furlong, belonging to Mr. Thomas Wood, a person of civility, industry, and knowledge in this way, who hath made observation of remarkable things about him, and from whom we have received divers silver and copper coins.

[||] Belonging to that noble gentleman, and true example of worth, Sir Ralph Hare, Bart. my honoured friend.

[¶] A piece of Maud, the empress, said to be found in Buckenham Castle, with this inscription: *Elle n' a elle.*

[3] *Now if the, &c.*] That is to say "*if iken* (as well αγχων) signified an elbow — and thus, the Icenians were but "men that lived in an angle or elbow," then would the inhabitants of Norfolk have the best claim to the appellation, that county being most emphatically the *elbow* of Icenia. But, unfortunately, *iken* does *not* signify an elbow; and it appears that the Iceni derived their name from the river Ouse, on whose banks they resided,—anciently called Iken, Yken, or Ycin. Whence, also, Ikenild-street, Ikenthorpe, Ikenworth.

How the Romans left so many coins in countries of their conquests seems of hard resolution; except we consider how they buried them under ground when, upon barbarous invasions, they were fain to desert their habitations in most part of their empire, and the strictness of their laws forbidding to transfer them to any other uses; wherein the Spartans‡ were singular, who, to make their copper money useless, contempered it with vinegar. That the Britons left any, some wonder, since their money was iron and iron rings before Cæsar; and those of after-stamp by permission, and but small in bulk and bigness. That so few of the Saxons remain, because, overcome by succeeding conquerors upon the place, their coins, by degrees, passed into other stamps and the marks of after ages.

Than the time of these urns deposited, or precise antiquity of these relicks, nothing of more uncertainty; for since the lieutenant of Claudius seems to have made the first progress into these parts, since Boadicea was overthrown by the forces of Nero, and Agricola put a full end to these conquests, it is not probable the country was fully garrisoned or planted before; and, therefore, however these urns might be of later date, not likely of higher antiquity.

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* At Thorpe. † *Brampton Abbas Journallensis.* ‡ *Plut. in vita Licurg.*

And the succeeding emperors desisted not from their conquests in these and other parts, as testified by history and medal-inscription yet extant:—the province of Britain, in so divided a distance from Rome, beholding the faces of many imperial persons, and in large account; no fewer than Cæsar, Claudius, Britannicus, Vespasian, Titus, Adrian, Severus, Commodus, Geta, and Caracalla.

A great obscurity herein, because no medal or emperor's coin enclosed, which might denote the date of their interments; observable in many urns, and found in those of Spitalfields, by London,* which contained the coins of Claudius, Vespasian, Commodus, Antoninus, attended with lacrymatories, lamps, bottles of liquor, and other appurtenances of affectionate superstition, which in these rural interments were wanting.

Some uncertainty there is from the period or term of burning, or the cessation of that practice. Macrobius affirmeth it was disused in his days; but most agree, though without authentic record, that it ceased with the Antonini,—most safely to be understood after the reign of those emperors which assumed the name of Antoninus, extending unto Heliogabalus. Not strictly after Marcus; for about fifty years later, we find the magnificent burning and consecration of Severus; and, if we so fix this period or cessation, these urns will challenge above thirteen hundred years.

But whether this practice was only then left by emperors and great persons, or generally about Rome, and not in other provinces, we hold no authentic account; for after Tertullian, in the days of Minucius, it was obviously objected upon Christians, that they condemned the practice of burning.† And we find a passage in Sidonius,‡ which asserteth that practice in France unto a lower account. And, perhaps, not fully disused till Christianity fully established, which gave the final extinction to these sepulchral bonfires.

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* *Stow's Survey of London.*

† *Execrantur rogos, et damnant ignium sepulturam.—Min. in Oct.*

‡ *Sidon. Apollinaris.*

Whether they were the bones of men, or women, or children, no authentic decision from ancient custom in distinct places of burial. Although not improbably conjectured, that the double sepulture, or burying place of Abraham,* had in it such intention. But from exility of bones, thinness of skulls, smallness of teeth, ribs, and thigh bones, not improbable that many thereof were persons of minor age, or women. Confirmable also from things contained in them. In most were found substances resembling combs, plates like boxes, fastened with iron pins, and handsomely overwrought like the necks or bridges of musical instruments, long brass plates overwrought like the handles of neat implements, brazen nippers, to pull away hair, and in one a kind of opal, yet maintaining a bluish colour.

Now that they accustomed to burn or bury with them, things wherein they excelled, delighted, or which were dear unto them, either as farewells unto all pleasure, or vain apprehension that they might use them in the other world, is testified by all antiquity, observable from the gem or beryl ring upon the finger of Cynthia, the mistress of Propertius, when after her funeral pyre her ghost appeared unto him; and notably illustrated from the contents of that Roman urn preserved by Cardinal Farnese,† wherein besides great number of gems with heads of gods and goddesses, were found an ape of agath, a grasshopper, an elephant of amber, a crystal ball, three glasses, two spoons, and six nuts of crystal; and beyond the content of urns, in the monument of Childerick the first,‡ and fourth king from Pharamond, casually discovered three years past at Tournay, restoring unto the world much gold richly adorning his sword, two hundred rubies, many hundred imperial coins, three hundred golden bees, the bones and horse shoes of his horse interred with him, according to the barbarous magnificence of those days in their sepulchral obsequies. Although, if we steer by the conjecture of many and septuagint expression, some trace thereof may be found even with the ancient Hebrews, not only from the sepulchral treasure of David, but the circumcision knives which Joshua also buried.

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* *Gen.* xxiii, 4. † *Vigeneri Annot. in* 4. *Liv.* ‡ *Chifflet. in Anast. Childer.*

Some men, considering the contents of these urns, lasting pieces and toys included in them, and the custom of burning with many other nations, might somewhat doubt whether all urns found among us, were properly Roman relicks, or some not belonging unto our British, Saxon, or Danish forefathers.

In the form of burial among the ancient Britons, the large discourses of Cæsar, Tacitus, and Strabo are silent. For the discovery whereof, with other particulars, we much deplore the loss of that letter which Cicero expected or received from his brother Quintus, as a resolution of British customs; or the account which might have been made by Scribonius Largus the physician,[4] accompanying the Emperor Claudius, who might have also discovered that frugal bit of the old Britons,* which in the bigness of a bean could satisfy their thirst and hunger.

But that the Druids and ruling priests used to burn and bury, is expressed by Pomponius, that Bellinus the brother of Brennus, and king of the Britons, was burnt, is acknowledged by Polydorus, as also by Amandus Zierexensis in *Historia*, and Pineda in his *Universa Historia*, (Spanish.) That they held that practice in Gallia, Cæsar expressly delivereth. Whether the Britons (probably descended from them, of like religion, language, and manners) did not sometimes make use of burning, or whether at least such as were after civilized unto the Roman life and manners, conformed not unto this practice, we have no historical assertion or denial. But since, from the account of Tacitus, the Romans early wrought so much civility upon the British stock, that they brought them to build temples, to wear the gown, and study the Roman laws and language, that they conformed also unto their religious rites and customs in burials, seems no improbable conjecture.

That burning the dead was used in Sarmatia is affirmed by Gaguinus, that the Sueons and Gothlanders used to burn their princes and great persons, is delivered by Saxo and

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* *Dionis excerpta per Xiphilin. in Severo.*

[4] *that letter which Cicero, &c.*] See vol. iv, p. 240, Nos. 2 and 3, where he imagines both these accounts to have been discovered.

Olaus; that this was the old German practice, is also asserted by Tacitus. And though we are bare in historical particulars of such obsequies in this island, or that the Saxons, Jutes, and Angles burnt their dead, yet came they from parts where 't was of ancient practice; the Germans using it, from whom they were descended. And even in Jutland and Sleswick in Anglia Cymbrica, urns with bones were found not many years before us.

But the Danish and northern nations have raised an æra or point of compute from their custom of burning their dead:* some deriving it from Unguinus, some from Frotho the great, who ordained by law, that princes and chief commanders should be committed unto the fire, though the common sort had the common grave interment. So Starkatterus that old hero was burnt, and Ringo royally burnt the body of Harold the king slain by him.

What time this custom generally expired in that nation, we discern no assured period; whether it ceased before Christianity, or upon their conversion, by Ausgurius the Gaul in the time of Ludovicus Pius the son of Charles the Great, according to good computes; or whether it might not be used by some persons, while for an hundred and eighty years Paganism and Christianity were promiscuously embraced among them, there is no assured conclusion. About which times the Danes were busy in England, and particularly infested this county; where many castles and strong holds were built by them, or against them, and great number of names and families still derived from them. But since this custom was probably disused before their invasion or conquest, and the Romans confessedly practised the same since their possession of this island, the most assured account will fall upon the Romans, or Britons Romanized.

However, certain it is, that urns conceived of no Roman original, are often digged up both in Norway and Denmark, handsomely described, and graphically represented by the learned physician Wormius.† And in some parts of Denmark in no ordinary number, as stands delivered by authors exactly describing those countries.* And they contained not only bones, but many other substances in them, as knives, pieces of iron, brass, and wood, and one of Norway a brass gilded jew's-harp.

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* *Roisold, Brendetyde. Ild tyde.*

† *Olai Wormii Monumenta et Antiquitat. Dan.*

Nor were they confused or careless in disposing the noblest sort, while they placed large stones in circle about the urns or bodies which they interred: somewhat answerable unto the monument of Rollrich stones in England,† or sepulchral monument probably erected by Rollo, who after conquered Normandy; where 't is not improbable somewhat might be discovered. Meanwhile to what nation or person belonged that large urn found at Ashbury,‡ containing mighty bones, and a buckler; what those large urns found at Little Massingham;§ or why the Anglesea urns are placed with their mouths downward, remains yet undiscovered.

CHAPTER III.

PLAISTERED and whited sepulchres were anciently affected in cadaverous and corrupted burials; and the rigid Jews were wont to garnish the sepulchres of the righteous.‖ Ulysses, in Hecuba, cared not how meanly he lived, so he might find a noble tomb after death.¶ Great princes affected great monuments; and the fair and larger urns contained no vulgar ashes, which makes that disparity in those which time discovereth among us. The present urns were not of one capacity, the largest containing above a gallon, some not much above half that measure; nor all of one figure, wherein there is no strict conformity in the same or different countries; observable from those represented by Casalius, Bosio, and others, though all found in Italy: while many have handles, ears, and long necks, but most imitate a circular figure, in a spherical and round composure; whether from any mystery, best duration or capacity, were but a conjecture. But the common form with necks was a proper figure, making our last bed like our first; nor much unlike the urns of our nativity, while we lay in the nether part of the earth,* and inward vault of our microcosm. Many urns are red, these but of a black colour, somewhat smooth, and dully sounding, which begat some doubt, whether they were burnt, or only baked in oven or sun, according to the ancient way, in many bricks, tiles, pots, and testaceous works; and as the word *testa* is properly to be taken, when occurring without addition, and chiefly intended by Pliny, when he commendeth bricks and tiles of two years old, and to make them in the spring. Nor only these concealed pieces, but the open magnificence of antiquity, ran much in the artifice of clay. Hereof the house of Mausolus was built, thus old Jupiter stood in the capitol, and the statua of Hercules, made in the reign of Tarquinius Priscus, was extant in Pliny's days. And such as declined burning or funeral urns, affected coffins of clay, according to the mode of Pythagoras, a way preferred by Varro. But the spirit of great ones was above these circumscriptions, affecting copper, silver, gold, and porphyry urns, wherein Severus lay, after a serious view and sentence on that which should contain him.† Some of these urns were thought to have been silvered over, from sparklings in several pots, with small tinsel parcels; uncertain whether from the earth, or the first mixture in them.

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* *Adolphus Cyprius in Annal. Sleswic. urnis adeo abundabat collis, &c.*

† In Oxfordshire, *Camden.*

‡ In Cheshire, *Twinus de rebus Albionicis*

§ In Norfolk, *Hollingshead.*

‖ Matt. xxiii.

¶ *Euripides.*

Among these urns we could obtain no good account of their coverings; only one seemed arched over with some kind of brick-work. Of those found at Buxton, some were covered with flints, some, in other parts, with tiles, those at Yarmouth Caster were closed with Roman bricks, and some have proper earthen covers adapted and fitted to them. But in the Homerical urn of Patroclus, whatever was the solid tegument, we find the immediate covering to be a purple piece of silk: and such as had no covers might have the earth closely pressed into them, after which disposure were probably some of these, wherein we found the bones and ashes half mortared unto the sand and sides of the urn, and some long roots of quich, or dog's-grass, wreathed about the bones.

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* Psal. lxiii.

† *Χωρήσεις τὸν ἄνθρωπον, ὃν ἡ οἰκουμένη οὐκ ἐχώρησεν. Dion.*

No lamps, included liquors, lacrymatories, or tear-bottles, attended these rural urns, either as sacred unto the *manes*, or passionate expressions of their surviving friends. While with rich flames, and hired tears, they solemnized their obsequies, and in the most lamented monuments made one part of their inscriptions.[*] Some find sepulchral vessels containing liquors, which time hath incrassated into jellies. For, besides these lachrymatories, notable lamps, with vessels of oils, and aromatical liquors, attended noble ossuaries; and some yet retaining a vinosity[†] and spirit in them, which, if any have tasted, they have far exceeded the palates of antiquity. Liquors not to be computed by years of annual magistrates, but by great conjunctions and the fatal periods of kingdoms.[‡] The draughts of consulary date were but crude unto these, and Opimian wine[§] but in the must unto them.

In sundry graves and sepulchres we meet with rings, coins, and chalices. Ancient frugality was so severe, that they allowed no gold to attend the corpse, but only that which served to fasten their teeth.[||] Whether the Opaline stone in this were burnt upon the finger of the dead, or cast into the fire by some affectionate friend, it will consist with either custom. But other incinerable substances were found so fresh, that they could feel no singe from fire. These, upon view, were judged to be wood; but, sinking in water, and tried by the fire, we found them to be bone or ivory. In their hardness and yellow colour they most resembled box, which, in old expressions, found the epithet of eternal,[¶] and perhaps in such conservatories might have passed uncorrupted.

That bay leaves were found green in the tomb of S. Humbert,[**] after an hundred and fifty years, was looked upon as miraculous. Remarkable it was unto old spectators, that the cypress of the temple of Diana lasted so many hundred years. The wood of the ark, and olive-rod of Aaron, were older at the captivity; but the cypress of the ark of Noah was the greatest vegetable of antiquity, if Josephus were not deceived by some fragments of it in his days: to omit the moor logs and fir trees found under ground in many parts of England; the undated ruins of winds, floods, or earthquakes, and which in Flanders still shew from what quarter they fell, as generally lying in a north-east position.*

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[*] *Cum lacrymis posuêre.*

[†] *Lazius.*

[‡] About five hundred years.—*Plato.*

[§] *Vinum Opiminianum annorum centum.—Petron.*

[||] 12 *Tabul.* l. xi, *De Jure Sacro. Neve aurum adito ast quoi auro dentes vincti escunt im cum ilo sepelire urcreve, se fraude esto.*

[¶] *Plin.* l. xvi. *Inter ξύλα ἀσαπῆ numerat Theophrastus.*

[**] *Surius.*

But though we found not these pieces to be wood, according to first apprehensions, yet we missed not altogether of some woody substance; for the bones were not so clearly picked but some coals were found amongst them; a way to make wood perpetual, and a fit associate for metal, whereon was laid the foundation of the great Ephesian temple, and which were made the lasting tests of old boundaries and land-marks. Whilst we look on these, we admire not observations of coals found fresh after four hundred years.† In a long-deserted habitation‡ even egg shells have been found fresh, not tending to corruption.

In the monument of King Childerick the iron relicks were found all rusty and crumbling into pieces; but our little iron pins, which fastened the ivory works, held well together, and lost not their magnetical quality, though wanting a tenacious moisture for the firmer union of parts; although it be hardly drawn into fusion, yet that metal soon submitteth unto rust and dissolution. In the brazen pieces we admired not the duration, but the freedom from rust, and ill savour, upon the hardest attrition; but now exposed unto the piercing atoms of air, in the space of a few months, they begin to spot and betray their green entrails. We conceive not these urns to have descended thus naked as they appear, or to have entered their graves without the old habit of flowers. The urn of Philopœmen was so laden with flowers and ribbons, that it afforded no sight of itself. The rigid Lycurgus allowed olive and myrtle. The Athenians might fairly except against the practice of Democritus, to be buried up in honey, as fearing to embezzle a great commodity of their country, and the best of that kind in Europe. But Plato seemed too frugally politick, who allowed no larger monument than would contain four heroick verses, and designed the most barren ground for sepulture: though we cannot commend the goodness of that sepulchral ground which was set at no higher rate than the mean salary of Judas. Though the earth had confounded the ashes of these ossuaries, yet the bones were so smartly burnt, that some thin plates of brass were found half melted among them. Whereby we apprehend they were not of the meanest carcases, perfunctorily fired, as sometimes in military, and commonly in pestilence, burnings; or after the manner of abject corpses, huddled forth and carelessly burnt, without the Esquiline Port at Rome; which was an affront continued upon Tiberius, while they but half burnt his body,[*] and in the amphitheatre, according to the custom in notable malefactors; whereas Nero seemed not so much to fear his death as that his head should be cut off and his body not burnt entire.

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* *Gorop. Becanus in Niloscopio.*

† Of *Beringuccio nella pyrotechnia.*

‡ At Elmham.

Some, finding many fragments of skulls in these urns, suspected a mixture of bones; in none we searched was there cause of such conjecture, though sometimes they declined not that practice.—The ashes of Domitian[†] were mingled with those of Julia; of Achilles with those of Patroclus. All urns contained not single ashes; without confused burnings they affectionately compounded their bones; passionately endeavouring to continue their living unions. And when distance of death denied such conjunctions, unsatisfied affections conceived some satisfaction to be neighbours in the grave, to lie urn by urn, and touch but in their names. And many were so curious to continue their living relations, that they contrived large and family urns, wherein the ashes of their nearest friends and kindred might successively be received,[‡] at least some parcels thereof, while their collateral memorials lay in minor vessels about them.

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[*] *Sueton. in vitâ Tib. Et in amphitheatro semiustulandum,* not. *Cassaub.*

[†] *Sueton. in vitâ Domitian.*

[‡] See the most learned and worthy Mr. M. Casaubon upon Antoninus.

Antiquity held too light thoughts from objects of mortality, while some drew provocatives of mirth from anatomies,* and jugglers shewed tricks with skeletons. When fiddlers made not so pleasant mirth as fencers, and men could sit with quiet stomachs, while hanging was played before them.† Old considerations made few mementos by skulls and bones upon their monuments. In the Egyptian obelisks and hieroglyphical figures it is not easy to meet with bones. The sepulchral lamps speak nothing less than sepulture, and in their literal draughts prove often obscene and antick pieces. Where we find *D. M.*‡ it is obvious to meet with sacrificing *pateras* and vessels of libation upon old sepulchral monuments. In the Jewish hypogæum§ and subterranean cell at Rome, was little observable beside the variety of lamps and frequent draughts of the holy candlestick. In authentick draughts of Anthony and Jerome we meet with thigh bones and death's-heads; but the cemeterial cells of ancient Christians and martyrs were filled with draughts of Scripture stories; not declining the flourishes of cypress, palms, and olive, and the mystical figures of peacocks, doves, and cocks; but iterately affecting the portraits of Enoch, Lazarus, Jonas, and the vision of Ezekiel, as hopeful draughts, and hinting imagery of the resurrection, which is the life of the grave, and sweetens our habitations in the land of moles and pismires.

Gentile inscriptions precisely delivered the extent of men's lives, seldom the manner of their deaths, which history itself so often leaves obscure in the records of memorable persons. There is scarce any philosopher but dies twice or thrice in Laertius; nor almost any life without two or three deaths in Plutarch; which makes the tragical ends of noble persons more favourably resented by compassionate readers who find some relief in the election of such differences.

The certainty of death is attended with uncertainties, in time, manner, places. The variety of monuments hath often obscured true graves; and cenotaphs confounded sepulchres. For beside their real tombs, many have found honorary and empty sepulchres. The variety of Homer's monuments made him of various countries. Euripides[*] had his tomb in Africa, but his sepulture in Macedonia. And Severus[†] found his real sepulchre in Rome, but his empty grave in Gallia.

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* *Sic erimus cuncti, &c. Ergo dum vivimus vivamus.*

† Ἀγώνον παίζειν. A barbarous pastime at feasts, when men stood upon a rolling globe, with their necks in a rope and a knife in their hands, ready to cut it when the stone was rolled away; wherein if they failed, they lost their lives, to the laughter of their spectators.—*Athenæus.*

‡ *Diis manibus.*

§ *Bosio.*

He that lay in a golden urn[‡] eminently above the earth, was not like to find the quiet of his bones. Many of these urns were broke by a vulgar discoverer in hope of inclosed treasure. The ashes of Marcellus[§] were lost above ground, upon the like account. Where profit hath prompted, no age hath wanted such miners. For which the most barbarous expilators found the most civil rhetorick. Gold once out of the earth is no more due unto it; what was unreasonably committed to the ground, is reasonably resumed from it; let monuments and rich fabricks, not riches adorn men's ashes. The commerce of the living is not to be transferred unto the dead; it is not injustice to take that which none complains to lose, and no man is wronged where no man is possessor.

What virtue yet sleeps in this *terra damnata* and aged cinders, were petty magic to experiment. These crumbling relicks and long fired particles superannuate such expectations; bones, hairs, nails, and teeth of the dead, were the treasures of old sorcerers. In vain we revive such practices; present superstition too visibly perpetuates the folly of our forefathers, wherein unto old observation[||] this island was so complete, that it might have instructed Persia.

Plato's historian of the other world lies twelve days incorrupted, while his soul was viewing the large stations of the dead. How to keep the corpse seven days from corruption by anointing and washing, without exenteration, were an hazardable piece of art, in our choicest practice. How they made distinct separation of bones and ashes from fiery admixture, hath found no historical solution; though they seemed to make a distinct collection, and overlooked not Pyrrhus his toe which could not be burnt. Some provision they might make by fictile vessels, coverings, tiles, or flat stones, upon and about the body, (and in the same field, not far from these urns, many stones were found under ground,) as also by careful separation of extraneous matter, composing and raking up the burnt bones with forks, observable in that notable lamp of [Joan.] Galvanus.* Martianus, who had the sight of the *vas ustrinum*† or vessel wherein they burnt the dead, found in the Esquiline field at Rome, might have afforded clearer solution. But their insatisfaction herein begat that remarkable invention in the funeral pyres of some princes, by incombustible sheets made with a texture of asbestos, incremable flax, or Salamander's wool, which preserved their bones and ashes incommixed.

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[*] *Pausan. in Atticis.*

[†] *Lamprid. in vit. Alexand. Severi.*

[‡] *Trajanus. Dion.*

[§] *Plut. in vit. Marcelli.* The commission of the Gothish King Theodoric for finding out sepulchral treasure. *Cassiodor. var.* I. 4.

[||] *Britannia hodie eam attonitè celebrat tantis ceremoniis, ut dedisse Persis videri possit. Plin.* I. 29.

How the bulk of a man should sink into so few pounds of bones and ashes, may seem strange unto any who considers not its constitution, and how slender a mass will remain upon an open and urging fire of the carnal composition. Even bones themselves, reduced into ashes, do abate a notable proportion. And consisting much of a volatile salt, when that is fired out, make a light kind of cinders. Although their bulk be disproportionable to their weight, when the heavy principle of salt is fired out, and the earth almost only remaineth; observable in sallow, which makes more ashes than oak, and discovers the common fraud of selling ashes by measure, and not by ponderation.

Some bones make best skeletons,‡ some bodies quick and speediest ashes. Who would expect a quick flame from hydropical Heraclitus? The poisoned soldier when his belly brake, put out two pyres in Plutarch.§ But in the plague of Athens||, one private pyre served two or three intruders; and the Saracens burnt in large heaps, by the king of Castile,¶ shewed how little fuel sufficeth. Though the funeral pyre of

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* To be seen *in Licet. de reconditis veterum lucernis.* [p. 599—fol. 1653.]

† *Typograph. Roma ex Martiano. Erat et vas ustrinum appellatum, quod in eo cadavera comburerentur. Cap. de Campo Esquilino.*

‡ Old bones according to Lyserus. Those of young persons not tall nor fat according to Columbus.

§ *In vita Gracc.*

|| *Thucydides.*

¶ *Laurent. Valla.*

Patroclus took up an hundred foot,[*] a piece of an old boat burnt Pompey; and if the burthen of Isaac were sufficient for an holocaust, a man may carry his own pyre.

From animals are drawn good burning lights, and good medicines against burning.[†] Though the seminal humour seems of a contrary nature to fire, yet the body completed proves a combustible lump, wherein fire finds flame even from bones, and some fuel almost from all parts; though the metropolis of humidity[‡] seems least disposed unto it, which might render the skulls of these urns less burned than other bones. But all flies or sinks before fire almost in all bodies: when the common ligament is dissolved, the attenuable parts ascend, the rest subside in coal, calx, or ashes.

To burn the bones of the king of Edom for lime,[§] seems no irrational ferity; but to drink of the ashes of dead relations,[||] a passionate prodigality. He that hath the ashes of his friend, hath an everlasting treasure; where fire taketh leave, corruption slowly enters. In bones well burnt, fire makes a wall against itself; experimented in cupels,[5] and tests of metals, which consist of such ingredients. What the sun compoundeth, fire analyseth, not transmuteth. That devouring agent leaves almost always a morsel for the earth, whereof all things are but a colony; and which, if time permits, the mother element will have in their primitive mass again.

He that looks for urns and old sepulchral relicks, must not seek them in the ruins of temples, where no religion anciently placed them. These were found in a field, according to ancient custom, in noble or private burial; the old practice of the Canaanites, the family of Abraham, and the burying-place of Joshua, in the borders of his possessions; and also agreeable unto Roman practice to bury by high-ways, whereby their monuments were under eye;—memorials of themselves, and mementos of mortality unto living passengers; whom the epitaphs of great ones were fain to beg to stay and look upon them,—a language though sometimes used, not so proper in church inscriptions.* The sensible rhetorick of the dead, to exemplarity of good life, first admitted the bones of pious men and martyrs within church walls, which in succeeding ages crept into promiscuous practice : while Constantine was peculiarly favoured to be admitted into the church porch, and the first thus buried in England, was in the days of Cuthred.

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[*] Ἑκατόμπεδον ἔνθα ἢ ἔνθα.

[†] *Alb. Ovor.*

[‡] The brain. *Hippocrates.*

[§] Amos ii, 1.

[||] As Artemisia of her husband Mausolus.

[5] *cupels.*] "A chemical vessel, made of earth, ashes, or burnt bones, and in which assay-masters try metals. It suffers all baser ores, when fused and mixed with lead, to pass off, and retains only gold and silver."

Christians dispute how their bodies should lie in the grave.† In urnal interment they clearly escaped this controversy. Though we decline the religious consideration, yet in cemeterial and narrower burying-places, to avoid confusion and cross-position, a certain posture were to be admitted; which even Pagan civility observed. The Persians lay north and south; the Megarians and Phœnicians placed their heads to the east; the Athenians, some think, towards the west, which Christians still retain. And Beda will have it to be the posture of our Saviour. That he was crucified with his face toward the west, we will not contend with tradition and probable account; but we applaud not the hand of the painter, in exalting his cross so high above those on either side: since hereof we find no authentic account in history, and even the crosses found by Helena, pretend no such distinction from longitude or dimension.

To be gnawed out of our graves, to have our skulls made drinking bowls, and our bones turned into pipes, to delight and sport our enemies, are tragical abominations escaped in burning burials.

Urnal interments and burnt relicks lie not in fear of worms, or to be an heritage for serpents. In carnal sepulture, corruptions seem peculiar unto parts; and some speak of snakes out of the spinal-marrow. But while we suppose common worms in graves, 't is not easy to find any there; few in churchyards above a foot deep, fewer or none in churches though in fresh decayed bodies. Teeth, bones, and hair, give

* *Siste viator.*

† *Kirkmannus de funer.*

the most lasting defiance to corruption.[6] In an hydropical body, ten years buried in the churchyard, we met with a fat concretion, where the nitre of the earth, and the salt and lixivious liquor of the body, had coagulated large lumps of fat into the consistence of the hardest Castile soap, whereof part remaineth with us.[7] After a battle with the Persians, the Roman corpses decayed in few days, while the Persian bodies remained dry and uncorrupted. Bodies in the same ground do not uniformly dissolve, nor bones equally moulder; whereof, in the opprobrious disease, we expect no long duration. The body of the Marquis of Dorset seemed sound and handsomely cereclothed, that after seventy-eight years was found uncorrupted.* Common tombs preserve not beyond powder: a firmer consistence and compage of parts might be expected from arefaction, deep burial, or charcoal. The greatest antiquities of mortal bodies may remain in putrefied bones, whereof, though we take not in the pillar of Lot's wife, or metamorphosis of Ortelius, †[8] some may be older than pyramids, in the putrefied relicks of the general inundation. When Alexander opened the tomb of Cyrus, the remaining bones discovered his proportion, whereof urnal fragments afford but a bad conjecture, and have this disadvantage of grave interments, that they leave us ignorant of most personal discoveries. For since bones afford not only rectitude and stability but figure unto the body, it is no impossible physiognomy to conjecture at fleshy appendencies, and after what shape the muscles and carnous parts might hang in their full consistencies. A full-spread *cariola*[*] shews a well-shaped horse behind; handsome formed skulls give some analogy to fleshy resemblance. A critical view of bones makes a good distinction of sexes. Even colour is not beyond conjecture, since it is hard to be deceived in the distinction of Negroes' skulls.[†] Dante's[‡] characters are to be found in skulls as well as faces. Hercules is not only known by his foot. Other parts make out their comproportions and inferences upon whole or parts. And since the dimensions of the head measure the whole body, and the figure thereof gives conjecture of the principal faculties, physiognomy outlives ourselves, and ends not in our graves.

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* Of Thomas, Marquis of Dorset, whose body being buried 1530, was 1608, upon the cutting open of the cerecloth, found perfect and nothing corrupted, the flesh not hardened, but in colour, proportion, and softness like an ordinary corpse newly to be interred. *Burton's Descript. of Leicestershire.*

† In his map of Russia.

[6] *hair, &c.*] This assertion of the durability of human hair has been corroborated by modern experiment. M. Pictet, of Geneva, instituted a comparison between recent human hair and that from a mummy brought from Teneriffe, with reference to the constancy of those properties which render hair important as a hygrometrick substance. For this purpose, hygrometers, constructed according to the principles of Saussure were used; one with a fresh hair, the other from the mummy. The results of the experiments were, that the hygrometrick quality of the Guanche hair is sensibly the same as that of recent hair.—*Edin. Phil. Journal*, xiii, 196.

[7] *In an hydropical body, &c.*] This substance was afterwards found in the cemetery of the Innocents at Paris, by Fourcroy, and became known to the French chemists under the name of *adipo-cire*. Sir Thomas is admitted to have been the first discoverer of it.

[8] *metamorphosis, &c.*] His map of Russia (*Theatrum orbis Terrarum*, fol. Lond. 1606) exhibits but one "metamorphosis,"—a vignette of some figures kneeling before a figure seated in a tree, who is sprinkling something upon hi audience. On other trees in the distance hang several figures. This is the legend beneath:—"*Kergessi gens catervatim degit, id est in hordis: habetque ritum hujusmodi. Cum rem divinam ipsorum sacerdos peragit, sanguinem, lac et fimum jumentorum accipit, ac terræ miscet, inque vas quoddam infundit eoque arborem scandit, atque concione habita, in populum spargit, atque* hæc aspersio pro Deo habetur et colitur. *Cum quis diem inter illos obit, loco sepulturæ arboribus suspendit.*"

Severe contemplators, observing these lasting relicks, may think them good monuments of persons past, little advantage to future beings; and, considering that power which subdueth all things unto itself, that can resume the scattered atoms, or identify out of any thing, conceive it superfluous to expect a resurrection out of relicks: but the soul subsisting, other matter, clothed with due accidents, may solve the individuality. Yet the saints, we observe, arose from graves and monuments about the holy city. Some think the ancient patriarchs so earnestly desired to lay their bones in Canaan, as hoping to make a part of that resurrection; and, though thirty miles from Mount Calvary, at least to lie in that region which should produce the first fruits of the dead. And if, according to learned conjecture, the bodies of men shall rise where their greatest relicks remain, many are not like to err in the topography of their resurrection, though their bones or bodies be after translated by angels into the field of Ezekiel's vision, or as some will order it, into the valley of judgment, or Jehosaphat.[*]

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[*] That part in the skeleton of a horse, which is made by the haunch-bones.

[†] For their extraordinary thickness.[9]

[‡] The poet Dante in his view of Purgatory, found gluttons so meagre, and extenuated, that he conceited them to have been in the siege of Jerusalem, and that it was easy to have discovered *Homo* or *Omo* in their faces: M being made by the two lines of their cheeks, arching over the eye-brows to the nose, and their sunk eyes making O O which makes up *Omo*.

Parén l'occhiaje anella senza gemme:
Chi, nel viso degli uomini legge OMO,
Bene avria quivi conosciuto l'emme.—*Purgat.* xxiii, 31.

[9] The remark in the text is more correct than the explanation given of it in the note. The configuration of the skull (more particularly with reference to the *facial angle)* affords a criterion by which the various races of mankind may, with sufficient certainty, be discriminated.

CHAPTER IV.

CHRISTIANS have handsomely glossed the deformity of death by careful consideration of the body, and civil rites which take off brutal terminations: and though they conceived all reparable by a resurrection, cast not off all care of interment. And since the ashes of sacrifices burnt upon the altar of God, were carefully carried out by the priests, and deposed in a clean field; since they acknowledged their bodies to be the lodging of Christ, and temples of the Holy Ghost, they devolved not all upon the sufficiency of soul-existence; and therefore with long services and full solemnities, concluded their last exequies, wherein to all distinctions the Greek devotion seems most pathetically ceremonious.[†]

Christian invention hath chiefly driven at rites, which speak hopes of another life, and hints of a resurrection. And if the ancient Gentiles held not the immortality of their better part, and some subsistence after death, in several rites, customs, actions, and expressions, they contradicted their own opinions: wherein Democritus went high, even to the thought of a resurrection, as scoffingly recorded by Pliny.[‡] What can be more express than the expression of Phocylides?[§] Or who would expect from Lucretius [*] a sentence of Ecclesiastes? Before Plato could speak, the soul had wings in Homer, which fell not, but flew out of the body into the mansions of the dead; who also observed that handsome distinction of Demas and Soma, for the body conjoined to the soul, and body separated from it. Lucian spoke much truth in jest, when he said, that part of Hercules which proceeded from Alcmena perished, that from Jupiter remained immortal. Thus Socrates [†] was content that his friends should bury his body, so they would not think they buried Socrates; and, regarding only his immortal part, was indifferent to be burnt or buried. From such considerations, Diogenes might contemn sepulture, and, being satisfied that the soul could not perish, grow careless of corporal interment. The Stoicks, who thought the souls of wise men had their habitation about the moon, might make slight account of subterraneous deposition; whereas the Pythagoreans and transcorporating philosophers, who were to be often buried, held great care of their interment. And the Platonicks rejected not a due care of the grave, though they put their ashes to unreasonable expectations, in their tedious term of return and long set revolution.

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[*] *Tirin.* in Ezek.

[†] *Rituale Græcum, operâ J. Goar, in officio exequiarum.*

[‡] *Similis * * * * reviviscendi promissa Democrito vanitas, qui non revixit ipse. Quæ (malum) ista dementia est, iterari vitam morte?*—Plin. l. vii, c. 58.

[§] Καὶ τάχα δ' ἐκ γαίης ἐλπίζομεν ἐς φάος ἐλθεῖν λεῖψαν ἀποιχομένων, *et deinceps.*

Men have lost their reason in nothing so much as their religion, wherein stones and clouts make martyrs; and, since the religion of one seems madness unto another, to afford an account or rational of old rites requires no rigid reader. That they kindled the pyre aversely, or turning their face from it was an handsome symbol of unwilling ministration. That they washed their bones with wine and milk; that the mother wrapt them in linen, and dried them in her bosom, the first fostering part and place of their nourishment; that they opened their eyes towards heaven before they kindled the fire, as the place of their hopes or original, were no improper ceremonies. Their last valediction,[‡] thrice uttered by the attendants, was also very solemn, and somewhat answered by Christians, who thought it too little, if they threw not the earth thrice upon the interred body. That, in strewing their tombs, the Romans affected the rose; the Greeks amaranthus and myrtle: that the funeral pyre consisted of sweet fuel, cypress, fir, larix, yew, and trees perpetually verdant, lay silent expressions of their surviving hopes. Wherein Christians, who deck their coffins with bays, have found a more elegant emblem; for that it, seeming dead, will restore itself from the root, and its dry and exsuccous leaves resume their verdure again; which, if we mistake not, we have also observed in furze. Whether the planting of yew in churchyards hold not its original from ancient funeral rites, or as an emblem of resurrection, from its perpetual verdure, may also admit conjecture.

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[*] *Cedit enim retro de terrâ quod fuit ante in terram, &c.—Lucret.*

[†] *Plato in Phæd.*

[‡] *Vale, vale, nos te ordine quo natura permittet sequamur.*

They made use of musick to excite or quiet the affections of their friends, according to different harmonies. But the secret and symbolical hint was the harmonical nature of the soul; which, delivered from the body, went again to enjoy the primitive harmony of heaven, from whence it first descended; which, according to its progress traced by antiquity, came down by Cancer, and ascended by Capricornus.

They burnt not children before their teeth appeared, as apprehending their bodies too tender a morsel for fire, and that their gristly bones would scarce leave separable relicks after the pyral combustion. That they kindled not fire in their houses for some days after, was a strict memorial of the late afflicting fire. And mourning without hope, they had an happy fraud against excessive lamentation, by a common opinion that deep sorrows disturb their ghosts.*

That they buried their dead on their backs, or in a supine position, seems agreeable unto profound sleep, and common posture of dying; contrary to the most natural way of birth; nor unlike our pendulous posture, in the doubtful state of the womb. Diogenes was singular, who preferred a prone situation in the grave; and some Christians † like neither, who decline the figure of rest, and make choice of an erect posture.

That they carried them out of the world with their feet forward, not inconsonant unto reason, as contrary unto the native posture of man, and his production first into it; and also agreeable unto their opinions, while they bid adieu unto the world, not to look again upon it; whereas Mahometans who think to return to a delightful life again, are carried forth with their heads forward, and looking toward their houses.

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* *Tu manes ne læde meos.*

† Russians, &c.

They closed their eyes, as parts which first die, or first discover the sad effects of death. But their iterated clamations to excitate their dying or dead friends, or revoke them unto life again, was a vanity of affection; as not presumably ignorant of the critical tests of death, by apposition of feathers, glasses, and reflection of figures, which dead eyes represent not: which, however not strictly verifiable in fresh and warm *cadavers*, could hardly elude the test, in corpses of four or five days.*

That they sucked in the last breath of their expiring friends, was surely a practice of no medical institution, but a loose opinion that the soul passed out that way, and a fondness of affection, from some Pythagorical foundation,† that the spirit of one body passed into another, which they wished might be their own.

That they poured oil upon the pyre, was a tolerable practice, while the intention rested in facilitating the accension. But to place good omens in the quick and speedy burning, to sacrifice unto the winds for a dispatch in this office, was a low form of superstition.

The archimime, or jester, attending the funeral train, and imitating the speeches, gesture, and manners of the deceased, was too light for such solemnities, contradicting their funeral orations and doleful rites of the grave.

That they buried a piece of money with them as a fee of the Elysian ferryman, was a practice full of folly. But the ancient custom of placing coins in considerable urns, and the present practice of burying medals in the noble foundations of Europe, are laudable ways of historical discoveries, in actions, persons, chronologies; and posterity will applaud them.

We examine not the old laws of sepulture, exempting certain persons from burial or burning. But hereby we apprehend that these were not the bones of persons planet-struck or burnt with fire from heaven; no relicks of traitors to their country, self-killers, or sacrilegious malefactors; persons in old apprehension unworthy of the earth; condemned unto the Tartarus of hell, and bottomless pit of Pluto, from whence there was no redemption.

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* At least by some difference from living eyes.

† *Francesco Perucci, Pompe funebri.*

Nor were only many customs questionable in order to their obsequies, but also sundry practices, fictions, and conceptions, discordant or obscure, of their state and future beings. Whether unto eight or ten bodies of men to add one of a woman, as being more inflammable, and unctuously constituted for the better pyral combustion, were any rational practice: or whether the complaint of Periander's wife be tolerable, that wanting her funeral burning, she suffered intolerable cold in hell, according to the constitution of the infernal house of Pluto, wherein cold makes a great part of their tortures; it cannot pass without some question.

Why the female ghosts appear unto Ulysses, before the heroes and masculine spirits,—why the Psyche or soul of Tiresias is of the masculine gender,* who being blind on earth, sees more than all the rest in hell; why the funeral suppers consisted of eggs, beans, smallage, and lettuce, since the dead are made to eat asphodels † about the Elysian meadows,—why, since there is no sacrifice acceptable, nor any propitiation for the covenant of the grave, men set up the deity of Morta, and fruitlessly adored divinities without ears, it cannot escape some doubt.

The dead seem all alive in the human Hades of Homer, yet cannot well speak, prophesy, or know the living, except they drink blood, wherein is the life of man. And therefore the souls of Penelope's paramours, conducted by Mercury, chirped like bats, and those which followed Hercules, made a noise but like a flock of birds.

The departed spirits know things past and to come; yet are ignorant of things present. Agamemnon foretells what should happen unto Ulysses; yet ignorantly enquires what is become of his own son. The ghosts are afraid of swords in Homer; yet Sibylla tells Æneas in Virgil, the thin habit of spirits was beyond the force of weapons. The spirits put off their malice with their bodies, and Cæsar and Pompey accord in Latin hell; yet Ajax, in Homer, endures not a conference with Ulysses: and Deiphobus appears all mangled in Virgil's ghosts, yet we meet with perfect shadows among the wounded ghosts of Homer.

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* In Homer:—Ψυχὴ θηβαίου Τειρεσίαο σκῆπτρον ἔχων.

† In Lucian.

Since Charon in Lucian applauds his condition among the dead, whether it be handsomely said of Achilles, that living contemner of death, that he had rather be a ploughman's servant, than emperor of the dead? How Hercules his soul is in hell, and yet in heaven; and Julius his soul in a star, yet seen by Æneas in hell?—except the ghosts were but images and shadows of the soul, received in higher mansions, according to the ancient division of body, soul, and image, or *simulachrum* of them both. The particulars of future beings must needs be dark unto ancient theories, which Christian philosophy yet determines but in a cloud of opinions. A dialogue between two infants in the womb concerning the state of this world,[9] might handsomely illustrate our ignorance of the next, whereof methinks we yet discourse in Plato's den, and are but embryo philosophers.

Pythagoras escapes in the fabulous hell of Dante,[*] among that swarm of philosophers, wherein, whilst we meet with Plato and Socrates, Cato is to be found in no lower place than purgatory. Among all the set, Epicurus is most considerable, whom men make honest without an Elysium, who contemned life without encouragement of immortality, and making nothing after death, yet made nothing of the king of terrors.

Were the happiness of the next world as closely apprehended as the felicities of this, it were a martyrdom to live; and unto such as consider none hereafter, it must be more than death to die, which makes us amazed at those audacities that durst be nothing and return into their chaos again.

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[*] *Del Inferno*, cant. 4.

[9] *A Dialogue, &c.*] In one of Sir Thomas's Common-place Books, (see vol. iv, p. 379,) occurs this sentence, apparently as a memorandum to write such a dialogue. And from "*A Catalogue of MSS. written by, and in the possession of Sir Thomas Browne, M.D. late of Norwich, and of his Son Dr. Edward Browne, late President of the College of Physicians, London,*" in the Bodleian Library, (*MSS. Rawlinson.* 390, xi,) it appears that he actually did write such a Dialogue. I have searched, hitherto in vain, for it, as I have elsewhere lamented.—*Rel. Med.* p. 58, note. Should I meet with it in time, it will be inserted at the end of vol. iv.

Certainly such spirits as could contemn death, when they expected no better being after, would have scorned to live, had they known any. And therefore we applaud not the judgment of Machiavel, that Christianity makes men cowards, or that with the confidence of but half dying, the despised virtues of patience and humility have abased the spirits of men, which Pagan principles exalted; but rather regulated the wildness of audacities, in the attempts, grounds, and eternal sequels of death; wherein men of the boldest spirits are often prodigiously temerarious. Nor can we extenuate the valour of ancient martyrs, who contemned death in the uncomfortable scene of their lives, and in their decrepit martyrdoms did probably lose not many months of their days, or parted with life when it was scarce worth the living. For (beside that long time past holds no consideration unto a slender time to come) they had no small disadvantage from the constitution of old age, which naturally makes men fearful, and complexionally superannuated from the bold and courageous thoughts of youth and fervent years. But the contempt of death from corporal animosity, promoteth not our felicity. They may sit in the orchestra, and noblest seats of heaven, who have held up shaking hands in the fire, and humanly contended for glory.

Mean while Epicurus lies deep in Dante's hell, wherein we meet with tombs enclosing souls, which denied their immortalities. But whether the virtuous heathen, who lived better than he spake, or erring in the principles of himself, yet lived above philosophers of more specious maxims, lie so deep as he is placed, at least so low as not to rise against Christians, who believing or knowing that truth, have lastingly denied it in their practice and conversation—were a query too sad to insist on.

But all or most apprehensions rested in opinions of some future being, which, ignorantly or coldly believed, begat those perverted conceptions, ceremonies, sayings, which Christians pity or laugh at. Happy are they, which live not in that disadvantage of time, when men could say little for futurity, but from reason: whereby the noblest minds fell often upon doubtful deaths, and melancholy dissolutions. With these hopes, Socrates warmed his doubtful spirits against that cold potion; and Cato, before he durst give the fatal stroke, spent part of the night in reading the immortality of Plato, thereby confirming his wavering hand unto the animosity of that attempt.

It is the heaviest stone that melancholy can throw at a man, to tell him he is at the end of his nature; or that there is no further state to come, unto which this seems progressional, and otherwise made in vain. Without this accomplishment, the natural expectation and desire of such a state, were but a fallacy in nature; unsatisfied considerators would quarrel the justice of their constitutious, and rest content that Adam had fallen lower; whereby, by knowing no other original, and deeper ignorance of themselves, they might have enjoyed the happiness of inferior creatures, who in tranquillity possess their constitutions, as having not the apprehension to deplore their own natures, and, being framed below the circumference of these hopes, or cognition of better being, the wisdom of God hath necessitated their contentment: but the superior ingredient and obscured part of ourselves, whereto all present felicities afford no resting contentment, will be able at last to tell us, we are more than our present selves, and evacuate such hopes in the fruition of their own accomplishments.

CHAPTER V.

Now since these dead bones have already out-lasted the living ones of Methuselah, and in a yard under ground, and thin walls of clay, out-worn all the strong and specious buildings above it; and quietly rested under the drums and tramplings of three conquests: what prince can promise such diuturnity unto his relicks, or might not gladly say,

Sic ego componi versus in ossa velim? *

Time, which antiquates antiquities, and hath an art to make dust of all things, hath yet spared these minor monuments. In vain we hope to be known by open and visible conservatories, when to be unknown was the means of their continuation, and obscurity their protection. If they died by violent hands, and were thrust into their urns, these bones become considerable, and some old philosophers would honour them,[*] whose souls they conceived most pure, which were thus snatched from their bodies, and to retain a stronger propension unto them; whereas they weariedly left a languishing corpse, and with faint desires of re-union. If they fell by long and aged decay, yet wrapt up in the bundle of time, they fall into indistinction, and make but one blot with infants. If we begin to die when we live, and long life be but a prolongation of death, our life is a sad composition; we live with death, and die not in a moment. How many pulses made up the life of Methuselah, were work for Archimedes: common counters sum up the life of Moses his man.[†] Our days become considerable, like petty sums, by minute accumulations; where numerous fractions make up but small round numbers; and our days of a span long, make not one little finger.[‡]

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* *Tibullus.*

If the nearness of our last necessity brought a nearer conformity into it, there were a happiness in hoary hairs, and no calamity in half senses. But the long habit of living indisposeth us for dying; when avarice makes us the sport of death, when even David grew politickly cruel, and Solomon could hardly be said to be the wisest of men. But many are too early old, and before the date of age. Adversity stretcheth our days, misery makes Alcmena's nights,[§] and time hath no wings unto it. But the most tedious being is that which can unwish itself, content to be nothing, or never to have been, which was beyond the mal-content of Job, who cursed not the day of his life, but his nativity; content to have so far been, as to have a title to future being, although he had lived here but in an hidden state of life, and as it were an abortion.

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[*] *Oracula Chaldaica cum scholiis Pselli et Phethonis.* Βίῃ λιπόντων σῶμα ψυχαὶ καθαρώταται. *Vi corpus relinquentium animæ purissimæ.*

[†] In the Psalm of Moses.

[‡] According to the ancient arithmetick of the hand, wherein the little finger of the right hand contracted, signified an hundred. *Pierius in Hieroglyph.*

[§] One night as long as three.

What song the Syrens sang, or what name Achilles assumed when he hid himself among women, though puzzling questions,* are not beyond all conjecture. What time the persons of these ossuaries entered the famous nations of the dead,† and slept with princes and counsellors, might admit a wide solution. But who were the proprietaries of these bones, or what bodies these ashes made up, were a question above antiquarism; not to be resolved by man, nor easily perhaps by spirits, except we consult the provincial guardians, or tutelary observators. Had they made as good provision for their names, as they have done for their relicks, they had not so grossly erred in the art of perpetuation. But to subsist in bones, and be but pyramidally extant, is a fallacy in duration. Vain ashes which in the oblivion of names, persons, times, and sexes, have found unto themselves a fruitless continuation, and only arise unto late posterity, as emblems of mortal vanities, antidotes against pride, vain-glory, and madding vices. Pagan vain-glories which thought the world might last for ever, had encouragement for ambition; and, finding no *atropos* unto the immortality of their names, were never dampt with the necessity of oblivion. Even old ambitions had the advantage of ours, in the attempts of their vain-glories, who acting early, and before the probable meridian of time, have by this time found great accomplishment of their designs, whereby the ancient heroes have already out-lasted their monuments, and mechanical preservations. But in this latter scene of time, we cannot expect such mummies unto our memories, when ambition may fear the prophecy of Elias,‡ and Charles the Fifth can never hope to live within two Methuselahs of Hector.§

And therefore, restless inquietude for the diuturnity of our memories unto present considerations seems a vanity almost out of date, and superannuated piece of folly. We cannot hope to live so long in our names, as some have done in their persons. One face of Janus holds no proportion unto the other. 'T is too late to be ambitious. The great mutations of the world are acted, or time may be too short for our designs. To extend our memories by monuments, whose death we daily pray for, and whose duration we cannot hope, without injury to our expectations in the advent of the last day, were a contradiction to our beliefs. We whose generations are ordained in this setting part of time, are providentially taken off from such imaginations; and, being necessitated to eye the remaining particle of futurity, are naturally constituted unto thoughts of the next world, and cannot excusably decline the consideration of that duration, which maketh pyramids pillars of snow, and all that 's past a moment.

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* The puzzling questions of Tiberius unto grammarians. *Marcel. Donatus in Suet.*

† Κλυτὰ ἔθνεα νεκρῶν. *Hom. Job.*

‡ That the world may last but six thousand years.

§ Hector's fame lasting above two lives of Methuselah, before that famous prince was extant.

Circles and right lines limit and close all bodies, and the mortal right lined circle * must conclude and shut up all. There is no antidote against the opium of time, which temporally considereth all things: our fathers find their graves in our short memories, and sadly tell us how we may be buried in our survivors. Grave-stones tell truth scarce forty years.† Generations pass while some trees stand, and old families last not three oaks. To be read by bare inscriptions like many in Gruter,‡ to hope for eternity by enigmatical epithets or first letters of our names, to be studied by antiquaries, who we were, and have new names given us like many of the mummies,§ are cold consolations unto the students of perpetuity, even by everlasting languages.

To be content that times to come should only know there was such a man, not caring whether they knew more of him, was a frigid ambition in Cardan;|| disparaging his horoscopal inclination and judgment of himself. Who cares to subsist like Hippocrates's patients, or Achilles's horses in Homer, under naked nominations, without deserts and noble acts,

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* The character of death.

† Old ones being taken up, and other bodies laid under them.

‡ *Gruteri Inscriptiones Antiquæ.*

§ Which men show in several countries, giving them what names they please; and unto some the names of the old Egyptian kings, out of Herodotus.

|| *Cuperem notum esse quod sim, non opto ut sciatur qualis sim. Card. in vita propria.*

which are the balsam of our memories, the *entelechia* and soul of our subsistences? To be nameless in worthy deeds, exceeds an infamous history. The Canaanitish woman lives more happily without a name, than Herodias with one. And who had not rather have been the good thief, than Pilate?

But the iniquity of oblivion blindly scattereth her poppy, and deals with the memory of men without distinction to merit of perpetuity. Who can but pity the founder of the pyramids? Herostratus lives that burnt the temple of Diana, he is almost lost that built it. Time hath spared the epitaph of Adrian's horse, confounded that of himself. In vain we compute our felicities by the advantage of our good names, since bad have equal durations, and Thersites is like to live as long as Agamemnon. Who knows whether the best of men be known, or whether there be not more remarkable persons forgot, than any that stand remembered in the known account of time? Without the favour of the everlasting register, the first man had been as unknown as the last, and Methuselah's long life had been his only chronicle.

Oblivion is not to be hired. The greater part must be content to be as though they had not been, to be found in the register of God, not in the record of man. Twenty seven names make up the first story before the flood, and the recorded names ever since contain not one living century. The number of the dead long exceedeth all that shall live. The night of time far surpasseth the day, and who knows when was the equinox? Every hour adds unto that current arithmetick, which scarce stands one moment. And since death must be the *Lucina* of life, and even Pagans* could doubt, whether thus to live were to die; since our longest sue sets at right descensions, and makes but winter arches, and therefore it cannot be long before we lie down in darkness, and have our light in ashes;† since the brother of death[1] daily haunts us with dying mementos, and time that grows old in itself, bids us hope no long duration;—diuturnity is a dream and folly of expectation.[2]

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* Euripides.

† According to the custom of the Jews; who place a lighted wax-candle in a pot of ashes by the corpse. *Leo.*

[1] *the brother of death.*] That is, *sleep.* See a Fragment *On Dreams,* vol. iv, 353.

Darkness and light divide the course of time, and oblivion shares with memory a great part even of our living beings; we slightly remember our felicities, and the smartest strokes of affliction leave but short smart upon us. Sense endureth no extremities, and sorrows destroy us or themselves. To weep into stones are fables. Afflictions induce callosities; miseries are slippery, or fall like snow upon us, which notwithstanding is no unhappy stupidity. To be ignorant of evils to come, and forgetful of evils past, is a merciful provision in nature, whereby we digest the mixture of our few and evil days, and, our delivered senses not relapsing into cutting remembrances, our sorrows are not kept raw by the edge of repetitions. A great part of antiquity contented their hopes of subsistency with a transmigration of their souls,—a good way to continue their memories, while, having the advantage of plural successions, they could not but act something remarkable in such variety of beings, and enjoying the fame of their passed selves, make accumulation of glory unto their last durations. Others, rather than be lost in the uncomfortable night of nothing, were content to recede into the common being, and make one particle of the public soul of all things, which was no more than to return into their unknown and divine original again. Egyptian ingenuity was more unsatisfied, contriving their bodies in sweet consistencies, to attend the return of their souls. But all was vanity,* feeding the wind, and folly. The Egyptian mummies, which Cambyses or time hath spared, avarice now consumeth. Mummy is become merchandise, Mizraim cures wounds, and Pharaoh is sold for balsams.

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* *Omnia vanitas et pastio venti, νομὴ ἀνέμου καὶ βόσκησις, ut olim Aquila et Symmachus.* v. *Drus. Eccles.*

[2] *Diuturnity, &c.*] Here may properly be noticed a similar passage which I find in *MS. Sloan.* 1848. fol. 194.

"Large are the treasures of oblivion and heaps of things in a state next to nothing almost numberless; much more is buried in silence than recorded, and the largest volumes are but epitomes of what hath been. The account of time began with night, and darkness still attendeth it. Some things never come to light; many have been delivered; but more hath been swallowed in obscurity and the caverns of oblivion. How much is as it were *in vacuo*, and will never be cleared up, of those long living times when men could scarce remember themselves young; and men seem to us not ancient but antiquities, when they [*lived*] longer in their lives then we can now hope to do in our memories; when men feared not apoplexies and palsies after 7 or 8 hundred years; when living was so lasting that homicide might admit of distinctive qualifications from the age of the person, and it might seem a lesser injury to kill a man at 8 hundred than at forty, and when life was so well worth the living that few or none would kill themselves."

In vain do individuals hope for immortality, or any patent from oblivion, in preservations below the moon: men have been deceived even in their flatteries, above the sun, and studied conceits to perpetuate their names in heaven. The various cosmography of that part hath already varied the names of contrived constellations; Nimrod is lost in Orion, and Osyris in the dog-star. While we look for incorruption in the heavens, we find they are but like the earth;—durable in their main bodies, alterable in their parts; whereof, beside comets and new stars, perspectives begin to tell tales, and the spots that wander about the sun, with Phaeton's favour, would make clear conviction.

There is nothing strictly immortal, but immortality. Whatever hath no beginning, may be confident of no end;—which is the peculiar of that necessary essence that cannot destroy itself;—and the highest strain of omnipotency, to be so powerfully constituted as not to suffer even from the power of itself: all others have a dependent being and within the reach of destruction. But the sufficiency of Christian immortality frustrates all earthly glory, and the quality of either state after death, makes a folly of posthumous memory. God who can only destroy our souls, and hath assured our resurrection, either of our bodies or names hath directly promised no duration. Wherein there is so much of chance, that the boldest expectants have found unhappy frustration; and to hold long subsistence, seems but a scape in oblivion. But man is a noble animal, splendid in ashes, and pompous in the grave, solemnizing nativities and deaths with equal lustre, nor omitting ceremonies of bravery in the infamy of his nature.[3]

Life is a pure flame, and we live by an invisible sun within us. A small fire sufficeth for life, great flames seemed too little after death, while men vainly affected precious pyres, and to burn like Sardanapalus; but the wisdom of funeral laws found the folly of prodigal blazes, and reduced undoing fires unto the rule of sober obsequies, wherein few could be so mean as not to provide wood, pitch, a mourner, and an urn.*

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[3] *Man is a noble animal, &c.*] Southey quotes this striking passage in the opening of his *Colloquies,*—but in a note he conjectures that Browne wrote *infimy* instead of *infamy.*

Five languages secured not the epitaph of Gordianus.† The man of God lives longer without a tomb than any by one, invisibly interred by angels, and adjudged to obscurity, though not without some marks directing human discovery. Enoch and Elias, without either tomb or burial, in an anomalous state of being, are the great examples of perpetuity, in their long and living memory, in strict account being still on this side death, and having a late part yet to act upon this stage of earth. If in the decretory term of the world we shall not all die but be changed, according to received translation, the last day will make but few graves; at least quick resurrections will anticipate lasting sepultures. Some graves will be opened before they be quite closed, and Lazarus be no wonder. When many that feared to die, shall groan that they can die but once, the desmal state is the second and living death, when life puts despair on the damned; when men shall wish the coverings of mountains, not of monuments, and annihilation shall be courted.

While some have studied monuments, others have studiously declined them,[4] and some have been so vainly boisterous, that they durst not acknowledge their graves; wherein Alaricus ‡ seems most subtle, who had a river turned to hide his bones at the bottom. Even Sylla, that thought himself safe in his urn, could not prevent revenging tongues, and stones thrown at his monument. Happy are they whom privacy makes innocent, who deal so with men in this world, that they are not afraid to meet them in the next; who, when they die, make no commotion among the dead, and are not touched with that poetical taunt of Isaiah.*

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* according to the epitaph of Rufus and Beronica, in Gruterus.

—————nec ex
Eorum bonis plus inventum est, quam
Quod sufficeret ad emendam pyram
Et picem quibus corpora cremarentur,
Et præfica conducta, et olla empta.

† In Greek, Latin, Hebrew, Egyptian, Arabic; defaced by Licinius the Emperor.

‡ *Jornandes de rebus Geticis.*

[4] *others have studiously declined them.*] In a work entitled ΠΕΡΙΑΜΜΑ ΕΝΔΗΜΙΟΝ, *or Vulgar Errours in Practice censured,* is a chapter on Decent Sepulture, the greater part of which is devoted to a censure against "the affectation of epitaphs," which, the author observes, are of Pagan origin, and are not even once mentioned in the whole book of God.

Pyramids, arches, obelisks, were but the irregularities of vain-glory, and wild enormities of ancient magnanimity. But the most magnanimous resolution rests in the Christian religion, which trampleth upon pride, and sits on the neck of ambition, humbly pursuing that infallible perpetuity, unto which all others must diminish their diameters, and be poorly seen in angles of contingency.†

Pious spirits who passed their days in raptures of futurity, made little more of this world, than the world that was before it, while they lay obscure in the chaos of pre-ordination, and night of their fore-beings. And if any have been so happy as truly to understand Christian annihilation, ecstasies, exolution, liquefaction, transformation, the kiss of the spouse, gustation of God, and ingression into the divine shadow, they have already had an handsome anticipation of heaven; the glory of the world is surely over, and the earth in ashes unto them.

To subsist in lasting monuments, to live in their productions, to exist in their names and predicament of chimæras, was large satisfaction unto old expectations, and made one part of their Elysiums. But all this is nothing in the metaphysicks of true belief. To live indeed, is to be again ourselves, which being not only an hope, but an evidence in noble believers, 't is all one to lie in St. Innocent's ‡ church-yard, as in the sands of Egypt. Ready to be any thing, in the ecstasy of being ever, and as content with six foot as the *moles* of Adrianus.§

> ———*tabèsne cadavera solvat,*
> *An rogus, haud refert.*—LUCAN.

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* Isa. xiv, 16, &c. † *Angulus contingentiæ*, the least of angles.

‡ In Paris, where bodies soon consume.

§ A stately mausoleum or sepulchral pile, built by Adrianus in Rome, where now standeth the castle of St. Angelo.

END OF HYDRIOTAPHIA.

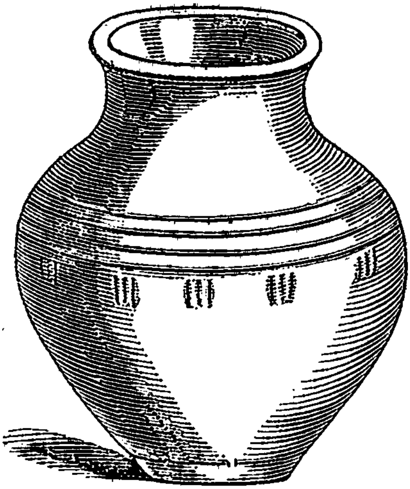
Brampton Urns.

PARTICULARS
OF SOME URNS FOUND IN BRAMPTON FIELD, FEBRUARY 1667–8.

SECOND EDITION.

CORRECTED FROM THREE MS. COPIES IN THE BRITISH MUSEUM AND THE BODLEIAN LIBRARY.

ORIGINALLY PUBLISHED IN
1712.



"A Roman Urn drawn with a coal taken out of it,
and found among the burnt bones, and is now in the possession of Dr. Hans Sloane,
to whom this plate is most humbly inscribed."—FIRST EDITION.

Brampton Urns.

I THOUGHT I had taken leave of Urns, when I had some years past given a short account of those found at Walsingham;* but a new discovery being made, I readily obey your commands in a brief description thereof.

In a large arable field, lying between Buxton and Brampton, but belonging to Brampton, and not much more than a furlong from Oxnead park, divers urns were found. A part of the field being designed to be inclosed, the workmen digged a ditch from north to south, and another from east to west, in both which they fell upon divers urns; but earnestly and carelessly digging, they broke all they met with, and finding nothing but ashes and burnt bones, they scattered what they found. Upon notice given unto me, I went myself to observe the same, and to have obtained a whole one; and though I met with two in the side of the ditch, and used all care I could with the workmen, yet they were broken. Some advantage there was from the wet season alone that day, the earth not readily falling from about them, as in the summer. When some were digging the north and south ditch, and others at a good distance the east and west one, those at this latter upon every stroke which was made at the other ditch, heard a hollow sound near to them, as though the ground had been arched, vaulted, or hollow, about them. It is very probable there are very many urns about this place, for they were found in both ditches, which were one hundred yards from each other; and this very sounding of the earth, which might be caused by hollow vessels in the earth, might make the same probable. There was nothing in them but fragments of burnt bones; not any such implements and extraneous substances as I found in the Walsingham urns: some pieces of skulls and teeth were easily discernable. Some were very large, some small, some had coverings, most none.

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* See *Hydriotaphia, Urn Burial: or, a Discourse of the Sepulchral Urns lately found in Norfolk*, 8vo. London, printed 1658.

Of these pots none were found above three-quarters of a yard in the ground; whereby it appeareth, that in all this time the earth hath little varied its surface, though this ground hath been ploughed to the utmost memory of man. Whereby it may be also conjectured, that this hath never been a wood-land, as some conceive all this open part to have been; for in such places they made no common burying-places in old time, except for some special persons in groves: and likewise that there hath been an ancient habitation about these parts; for at Buxton also, not a mile off, urns have been found in my memory; but in their magnitude, figure, colour, posture, &c. there was no small variety; some were large and capacious, able to contain above two gallons, some of a middle, others of a smaller size. The great ones probably belonging to greater persons, or might be family urns, fit to receive the ashes successively of their kindred and relations, and therefore, of these, some had coverings of the same matter, either fitted to them, or a thin flat stone, like a grey slate, laid over them; and therefore also great ones were but thinly found, but others in good number. Some were of large wide mouths, and bellies proportionable, with short necks, and bottoms of three inches diameter, and near an inch thick; some small, with necks like jugs, and about that bigness; the mouths of some few were not round, but after the figure of a circle compressed, not ordinarily to be imitated; though some had small, yet none had pointed bottoms, according to the figures of those which are to be seen in Roma Soteranea, Viginerus, or Mascardus.

In the colours also there was great variety; some were whitish, some blackish, and inclining to a blue, others yellowish, or dark red, arguing the variety of their materials.[1] Some fragments, and especially bottoms of vessels, which seemed to be handsome neat pans, were also found of a fine coral-like red, somewhat like Portugal vessels, as though they had been made out of some fine Bolary earth, and very smooth; but the like had been found in diverse places, as Dr. Casaubon hath observed about the pots found at Newington, in Kent, and as other pieces do yet testify, which are to be found at Burrow Castle, an old Roman station, not far from Yarmouth.

Of the urns, those of the larger sort, such as had coverings, were found with their mouths placed upwards; but great numbers of the others were, as they informed me, (and one I saw myself,) placed with their mouths downward, which were probably such as were not to be opened again, or receive the ashes of any other person. Though some wondered at this position, yet I saw no inconveniency in it; for the earth being closely pressed, and especially in minor mouthed pots, they stand in a posture as like to continue as the other, as being less subject to have the earth fall in, or the rain to soak into them. And the same posture has been observed in some found in other places, as Holingshead delivers, of divers found in Anglesea.

Some had inscriptions, the greatest part none; those with inscriptions, were of the largest sort, which were upon the reverted verges thereof. The greatest part of those which I could obtain were somewhat obliterated; yet some of the letters to be made out: the letters were between lines, either single or double, and the letters of some few, after a fair Roman stroke, others more rudely and illegibly drawn, wherein there seemed no great variety; "NUON" being upon very many of them; only upon the inside of the bottom of a small red pan-like vessel, with a glaze, or varnish, like pots which come from Portugal, but finer, were legibly set down in embossed letters, *CRACUNA F.* which might imply *Cracuna figulus*, or *Cracuna fecit*, the name of the manufacturer; for inscriptions commonly signified the name of the person interred, the names of servants official to such provisions, or the name of the artificer, or manufactor of such vessels; all which are particularly exemplified by the learned Licetus,* where the same inscription is often found, it is probably of the artificer, or where the name also is in the genitive case, as he also observeth.

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[1] *arguing the variety of their materials.*] More probably, perhaps, their being more or less thoroughly burned.

Out of one was brought unto me a silver denarius, with the head of Diva Faustina on the obverse side, and with this inscription, *Diva Augusta Faustina,* and on the reverse the figures of the Emperor and Empress joining their right hands, with this inscription, *Concordia*; the same is to be seen in Augustino, and must be coined after the death of Faustina, (who lived three years wife unto Antoninus Pius,) from the title of Diva, which was not given them before their deification. I also received from some men and women then present, coins of Posthumus and Tetricus, two of the thirty tyrants in the reign of Galienus, which being of much later date, begat an inference that burning of the dead and urn-burial lasted longer, at least in this country, than is commonly supposed. Good authors conceive, that this custom ended with the reign of the Antonini, whereof the last was Antoninus Heliogabalus, yet these coins extend about fourscore years lower; and since the head of Tetricus is made with a radiated crown, it must be conceived to have been made after his death, and not before his consecration, which, as the learned Tristan conjectures, was most probably in the reign of the emperor Tacitus, and the coin not made, or at least not issued abroad, before the time of the Emperor Probus, for Tacitus reigned but six months and a half, his brother Florianus but two months, unto whom Probus succeeding, reigned five years.

In the digging they brake divers glasses and finer vessels, which might contain such liquors as they often buried, in or by the urns; the pieces of glass were fine and clear, though thick; and a piece of one was finely streaked with smooth white streaks upon it. There were also found divers pieces of brass, of several figures; and one piece which seemed to e of bell metal. And in one urn was found a nail two inches long; whether to declare the trade or occupation of the person is uncertain. But upon the monuments of smiths, in Gruter, we meet with the figures of hammers, pincers, and the like; and we find the figure of a cobler's awl on the omb of one of that trade, which was in the custody of Berini, as Argulus hath set it down in his notes upon *Onuphrius, of the antiquities of Verona.*

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* Vid. *Licet. de Lucernis.*

Now, though urnes have been often discovered in former ges, many think it strange there should be many still found, et assuredly there may be great numbers still concealed. For,—though we should not reckon upon any who were thus buried before the time of the Romans, (although that the Druids were thus buried it may be probable, and we read of the urn of Chindonactes, a Druid, found near Dijon in Burgundy, largely discoursed by Licetus,) and though I say, we take not in any infant which was *minor igne rogi,* before seven months, or appearance of teeth, nor should account this practice of burning among the Britons higher than Vespasian, when it is said by Tacitus, that they conformed unto the manners and customs of the Romans, and so both nations might have one way of burial;—yet from his days, to the dates of these urns, were about two hundred years. And therefore if we fall so low, as to conceive there were buried this nation yearly but twenty thousand persons, the account the buried persons would amount unto four millions, and onsequently so great a number of urns dispersed through the land, as may still satisfy the curiosity of succeeding times, and arise unto all ages.

The bodies whose reliques these urns contained, seemed thoroughly burned; for beside pieces of teeth, there were found few fragments of bones, but rather ashes in hard lumps and pieces of coals, which were often so fresh, that one sufficed to make a good draught of its urn, which still remaineth with me.

Some persons digging at a little distance from the urn places, in hopes to find something of value, after they had digged about three quarters of a yard deep, fell upon an observable piece of work, whose description [hereupon followeth.]

The work was square, about two yards and a quarter on each side. The wall, or outward part, a foot thick, in colour red, and looked like brick; but it was solid, without any mortar, or cement, or figured brick in it, but of an whole piece, so that it seemed to be framed and burnt in the same place where it was found. In this kind of brick-work were thirty-two holes, of about two inches and a half diameter, and two above a quarter of a circle in the east and west sides. Upon two of these holes on the east side, were placed two pots, with their mouths downward; putting in their arms they found the work hollow below, and the earth being cleared off, much water was found below them, to the quantity of a barrel, which was conceived to have been the rain-water which soaked in through the earth above them.

The upper part of the work being broke, and opened they found a floor about two foot below, and then digging onward, three floors successively under one another, at the distance of a foot and half, the floors being of a slaty, not bricky substance; in these partitions some pots were found but broke by the workmen, being necessitated to use har blows for the breaking of the floors; and in the last partitio but one, a large pot was found of a very narrow mouth, shor ears, of the capacity of fourteen pints, which lay in an inclining posture, close by, and somewhat under a kind of arch i the solid wall, and by the great care of my worthy friend, M William Marsham, who employed the workmen, was taken whole, almost full of water, clean, and without smell, and i sipid, which being poured out, there still remains in the po a great lump of an heavy crusty substance. What wor this was we must as yet reserve unto better conjectur Mean while we find in Gruter that some monuments of th dead had divers holes sucessively to let in the ashes of the relations; but holes in such a great number to that intent, w have not any where met with.

About three months after, my noble and honoured friend Sir Robert Paston, had the curiosity to open a piece of groun in his park at Oxnead, which adjoined unto the former field where fragments of pots were found, and upon one the figur of a well made face; and there was also found an unusua coin of the Emperor Volusianus, having on the obverse the head of the Emperor, with a radiated crown, and this inscription, *Imp. Cæs. C. Vib. Volusiano Aug.* that is *Imperatori Cæsari Caio Vibio Volusiano Augusto.* On the reverse an human figure, with the arms somewhat extended, and at the right foot an altar, with the inscription, *Pietas.* This Emperor was son unto Caius Vibius Tribonianus Gallus, with whom he jointly reigned after the Decii, about the year 254; both he himself, and his father, were slain by the Emperor Æmilianus. By the radiated crown this piece should be coined after his death and consecration, but in whose time it is not clear in history. But probably this ground had been opened and digged before, though out of the memory of man, for we found divers small pieces of pots, sheep's bones, sometimes an oyster-shell a yard deep in the earth.

END OF VOL. III.

H. HUGHES SC.
QVA LVCEM ARTE.

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